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TIMES AND REGISTER.

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NEW YORK AND PHILADELPHIA, JULY 19, 1890.

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Original Articles.

THE RELATION OF BACTERIA TO PRACTICAL SURGERY.¹

By JOHN B. ROBERTS, M.D.

THE revolution which has occurred in practical surgery since the discovery of the relation of micro-organisms to the complications occurring in wounds, has caused me to take up this subject for discussion. Although many of my hearers may be familiar with the germ theory of disease, it is possible that it may interest some to have put before them in a short address a few points in bacteriology, which are of value to the practical surgeon.

It must be remembered that the groups of symptoms which were formerly classed under the heads of "inflammatory fever," "symptomatic fever," "traumatic fever," "hectic fever," and similar terms, varying in name with the surgeon using them, or with the location of the disease, are now known to be due to the invasion of the wound by microscopic plants. These bacteria, after entering the blood current at the wound, multiply with such prodigious rapidity that the whole system gives evidence of their existence. Suppuration of wounds is undoubtedly due to these organisms, as is tubercular disease, whether of surgical or medical character. Tetanus, erysipelas, and many other surgical conditions have been almost proved to be the result of infection by similar microscopic plants, which, though acting in the same way, have varying forms and life histories.

A distinction must be made between the "yeast-

plants," one of which produces thrush, and the "mould-plants," the existence of some of which, as parasites in the skin, give rise to certain cutaneous diseases. These two classes of vegetable parasites are foreign to the present topic, which is surgery, and I shall, therefore, confine my remarks to that group of vegetable parasites to which the term bacteria has been given. These are the micro organisms whose activities and method of growth particularly concerns the surgeon.

The individual plants are so minute that it takes in the neighborhood of ten or fifteen hundred of them grouped together to cover a spot as large as the full stop, or period, used in punctuating an ordinary newspaper. The rough estimate applies to the globular and egg-shaped bacteria, to which is given the name "coccus" (plural, cocci). The cane or rod-shaped bacteria are rather larger plants. Fifteen hundred of them placed end to end would stretch across the head of a pin. Because of the resemblance of these latter to a walking-stick, they have been termed "bacillus" (plural, bacilli). The bacteria most interesting to the surgeon belong to the cocci and bacilli. There are other forms which bacteriologists have dubbed with similar descriptive names, but they are more interesting to the physician than the surgeon. Many micro-organisms, whether cocci, bacilli, or of other shapes, are harmless; hence they are called non-pathogenic, to distinguish them from the disease-producing or pathogenic germs.

As many trees have the same shape and a similar method of growing, but bear different fruits, in one edible and in another poisonous, so two bacteria may look alike, to the microscopist's eye, and grow much in the same way; but one will cause no disease, while the other will produce tuberculosis of the lungs or brain.

Many scores of bacteria have been, by patient

¹ Read at the meeting of the Medical Society of the State of Pennsylvania, held at Pittsburg, Pa., June 11, 1890.

study, differentiated from their fellows and given distinctive names. Their nomenclature corresponds in classification and arrangement with the nomenclature adopted in other departments of botany. Thus we have the pus causing chain-coccus (*streptococcus pyogenes*), so called because it is globular in shape, because it grows with the individual plants attached to each other, or arranged in a row like a chain of beads on a string, and because it produces pus. In a similar way we have the pus-causing grape coccus of a golden color (*staphylococcus pyogenes aureus*). It grows with the individual plants arranged somewhat after the manner of a bunch of grapes, and when millions of them are collected together the mass has a golden yellow hue. Again, we have the *bacillus tuberculosis*, the rod-shaped plant, which is known to cause tuberculosis of the lungs, joints, brain, etc.

It is hardly astonishing that these fruitful sources of disease have so long remained undetected when their microscopic size is borne in mind. That some of them do cause disease is indisputable, since bacteriologists have, by their watchful and careful methods, separated a single plant from its surroundings and congeners, planted it free from all contamination, and observed it produce an infinitesimal brood of its own kind. Animals and patients inoculated with the plant thus cultivated have rapidly become subjects of the special disease which the particular plant was supposed to produce. The difficulty of such investigation becomes apparent when it is remembered that under the microscope many of these forms of vegetable life are identical in appearance, and that it is only by observing their growth, when cultivated in the proper soil, that they can be distinguished from each other. In certain cases it is quite difficult to distinguish them by the physical appearances produced during their growth. Then, it is only after an animal has been inoculated with them that the individual parasite can be accurately recognized and called by name. It is known, then, by the results it is capable of producing.

The various forms of bacteria are recognized, as I have said, by their method of growth, and by their shape. Another means of recognition is their individual peculiarity of taking certain dyes, so that special plants can be recognized under the microscope by the color given to them, which they refuse to give up when treated with chemical substances which remove these stains from, or bleach all the other tissues which, at first, were similarly stained.

The similarity between bacteria and the ordinary plants, with which florists are familiar, is indeed remarkable. Bacteria grow in animal and other albuminous fluids, and it is just as essential for them to have a suitable soil as it is for the corn or wheat that the farmer plants in his field. By altering the character of the albuminous fluid in which the micro-organism finds sustenance, these small plants can be given a vigorous growth, or may be actually starved to death. The farmer knows that it is impossible for him to grow the same crop year after year in the same field, and he is, therefore, compelled to rotate his crops. So is it with these microscopic plants which we are considering. After a time, the culture fluid or soil becomes so exhausted of its needed constituents by the immense number of plants that have grown in it that it is unfit for their life and development. Then this particular form will no longer thrive, but some other form of bacterium may find in it the properties required for functional activity, and grow vigorously. It is probably that this exhaustion

or absence of proper soil is an important agent in protecting man against continuous sickness, due to infection with bacteria. The ever-present bacteria often gains access to man's blood through external wounds, or the lungs and digestive tract; but unless a soil suited for their development is found in his fluids the plants will not grow. If they do not grow, and increase in numbers, they can do little harm.

Again, there are certain bacteria which are so antagonistic to each other that it is impossible to make them grow in company, or to co-exist in the blood of the same individual. For example, an animal inoculated with *erysipelas* germs cannot be successfully inoculated immediately afterward with the germs of malignant pustule. On the other hand, however, there are some micro-organisms which flourish luxuriantly when planted together in the same fluid, somewhat after the manner of pumpkins and Indian corn growing between the same fence rails. Others seem unwilling to grow alone, and only flourish when planted along with another germ. The antagonism between two bacteria is illustrated by the impossibility of having a good crop of grain in a field over-run with daisies. It is very evident, therefore that bacteriology is a branch of botany, and that nature shows the same tendencies in these minute plants as it does in the large vegetable world visible to our unaided eyes.

As the horticulturalist is able to alter the character of his plants by changing the circumstances under which they live, so can the bacteriologist change the vital processes and activities of bacteria by chemical and other manipulations of the culture substances in which these organisms grow. The power of bacteria to cause pathological changes may thus be weakened or attenuated; in other words, their functional power for evil is taken from them by alterations in the soil, the pathogenic or disease-producing power may be increased by similar, though not identical, alterations. The rapidity of their multiplication may be accelerated, or they may be compelled to lie dormant and inactive for a time; and, on the other hand, by exhausting the constituents of the soil upon which they depend for life, they may be killed.

The destruction of bacteria by means of heat and antiseptics is the essence of modern surgery. It is then by preventing access of these parasitic plants to the human organism (aseptic surgery), or the destruction of them by chemical agents and heat (antiseptic surgery), that we are now enabled to invade regions of the body by operative attacks which a few years ago were sacred.

It is a most curious fact, also, that it is possible, by selecting and cultivating only the lighter colored specimens of a certain purple bacterium, for the bacteriologist, to finally obtain a plant which is nearly white, but which has the essential characteristics of the original purple fungus. In this we see the same power which the florist has to alter the color of the petals of his flowers by various methods of selective breeding.

When the disease-producing bacteria gain access to the tissues and blood of human and other animals by means of wounds, or through an inflamed respiratory or alimentary mucous membrane, they produce pathological effects, provided there is not sufficient resistance and health-power in the animal's tissues to successfully antagonize the deleterious influence of the invading parasitic fungus. It is the rapid multiplication of this germ which furnishes a *continuous* irritation that enables them to have such a disastrous effect upon the tissue and the animal. If the tissues

had only the original dose of microbes to deal with the warfare between health and disease would be less uncertain in outcome. Victory would actually be on the side of the tissues and health.

The immediate cause of the pathogenic influence is probably the chemical excretions which are given out by these microscopic organisms. All plants and animals require a certain number of substances to be taken into their organisms for preservation of their vital activities. After these substances have been utilized there occurs an excretion of other chemical products. It is probably the excretions of the many millions of micro-organisms circulating in the blood that give rise to the disease characteristic of the fungus with which the animal has been infected. The condition called *sapraemia*, or septic intoxication, for example, is undoubtedly due to the entrance of the excretory products of putrefaction-bacteria into the circulation. This can be proved by injecting into an animal a small portion of these products obtained from cultures of the germs of putrefaction. Characteristic symptoms will at once be exhibited.

Septicæmia is a similar condition, due to the presence of putrefactive organisms themselves, and hence their products or ptomaines also in the blood. The rapidity of their multiplication in this albuminous soil, and the great amount of excretion from these numerous fungi, make the condition more serious than *sapraemia*. Clinically, the two conditions occur together.

The rapidity with which symptoms may arise after inoculation of small wounds with a very few germs, will be apparent when it is stated that one parasitic plant of this kind, may, by its rapidity of multiplication, give rise to fifteen or sixteen million individuals within the twenty-four hours. The enormous increase which takes place within three or four days is almost incalculable. It has been estimated that a bacillus only about one-thousandth of an inch in length, would, under favorable conditions, develop a brood of progeny, in less than four days, which would make a mass of fungi sufficient to fill all the oceans of the world, if they all had a depth of one mile.

Bacteria are present everywhere. They exist in the water, earth, air, and within our respiratory and digestive tract. Our skin is covered with millions of them; as is every article about us. They can circulate in the blood and lymph, and reach every tissue and part of our organism by passing through the walls of the capillaries. Fortunately, they require certain conditions of temperature, moisture, air, and organic food for existence and preservation of their vital activities.

If their surroundings are too hot, too cold, or too dry, or if they do not supply a proper quantity and quality of food, the bacterium becomes inactive, until the surrounding circumstances change, or may die absolutely. The spores, which finally become full fledged bacteria, are able to stand a more unfavorable environment than the adult bacteria. Many spores and adults, however, perish.

Each kind of bacterium requires its own special environment to permit it to grow and flourish. The frequency with which an unfavorable combination of circumstances occurs, limits greatly the disease-producing power of the pathogenic bacteria.

Many bacteria, moreover, are harmless, and do not produce disease even when present in the blood and tissues. Besides this, the whole blood cells are perpetually waging war against the bacteria in our bodies. They take the bacteria into their interiors and render them harmless by eating them up, so to

say; or they crowd together and form a wall of white blood cells around the place where the bacteria have entered the tissues, thus forming a barrier to cut off the food supply to the germ, and, perhaps, to prevent them entering the general blood current.

The war between the white blood cells and the bacteria is a bitter one. Many bacteria are killed; but on the other hand, the life of many blood cells is sacrificed, by the bacteria poisoning them with ptomaines. The tissue cells, if healthy, offer great resistance to the attack of the army of bacteria. Hence, if the white cells are vigorous and abundant at the site of the battle, defeat may come to the bacteria, and the patient suffer nothing from the attempt of these vegetable parasites to harm him. If, on the other hand, the tissues have a low resistant power, because of general debility of the patient, or a local debility of the tissues themselves, and the white cells be weakly and not abundant, the bacteria will gain the victory, get access to the general blood current, and invade every portion of the organism. Thus a general or a local disease will be caused, varying with the species of bacteria with which the patient has been infected, and the degree of resistance on the part of the tissues still existing.

From what has been stated it must be evident that the bacterial origins of disease depend upon the presence of a disease producing fungus; a diminution of the normal healthy tissue resistance to bacterial invasion. If there is no fungus present, the disease caused by such fungus cannot develop. If the fungus be present, and the normal healthy tissue resistance be undiminished, it is probable that disease will not occur. As soon, however, as overwork, injury of a mechanical kind, or any other cause, diminishes the local or general resistance of the tissues individual, the bacteria have the upper hand, and are liable to produce their malign effect.

Many conditions favor the bacterial attack. The patient's tissues may have an inherited peculiarity, which renders it easy for the bacteria to find a good soil for development; an old injury or inflammation may render the tissues less resistant than usual; the point at which inoculation has occurred may have certain anatomical peculiarities which make it a good place in which bacteria may multiply; the blood may have undergone certain chemical changes which render it a better soil than usual for the rapid growth of these parasitic plants.

The number of bacteria originally present makes a difference also. It is readily understood that the tissues and white blood cells would find it more difficult to repel the invasion of an army of a million microbes than the attack of a squad of ten similar fungi. I have said that the experimenter can weaken and augment the virulence of bacteria by manipulating their surroundings in the laboratory. It is probable that such a change occurs in nature. If so, some bacteria are more virulent than others of the same species; some less virulent. A few of the less virulent disposition would be more readily killed by the white cells and tissues than would a large number of the more violent ones. At other times the danger from microbic infection is greater, because there are two species introduced at the same time; and these two multiply more vigorously when together than when separated. There are, in fact, two allied hosts trying to destroy the blood cells and tissues. This occurs when the bacteria of putrefaction and the bacteria of suppuration are introduced into the tissues at the same time. The former causes *sapraemia* and septicæmia, the latter causes suppuration. The bac-

teria of tuberculosis are said to act more viciously if accompanied by the bacteria of putrefaction. Osteomyelitis is of greater severity, it is believed, if due to a mixed infection with both the white and golden grape-coccus of suppuration.

I have previously mentioned that the bacteria of malignant pustule are powerless to do harm when the germs of erysipelas are present in the tissues and blood. This is an example of the way in which one species of bacteria may actually aid the white cells, leucocylis and tissues in repelling an invasion of disease-producing microbes.

Having now occupied a portion of the time allotted to me, in giving a crude and hurried account of the characteristics of bacteria, let me conclude my address by discussing the relation of bacteria to the diseases most frequently met with by the surgeon. Mechanical irritations produce very temporary and slight irritation and inflammation, which rapidly subside because of the tendency of nature to restore the parts to health. Severe injuries even will therefore soon be followed by healing and cure, if no germs enter the wound.

Suppuration of operative and accidental wounds was, until recently, supposed to be essential. We now know, however, that wounds will not suppurate if kept perfectly free from one of the dozen or more forms of bacteria that are known to give rise to the formation of pus.

The doctrine of present surgical pathology is, that suppuration will not take place if pus-forming bacteria are kept out of the wound, which will then heal by first intention without inflammation, and without inflammatory fever.

In making this statement I am not unaware that there is a certain amount of fever following various severe wounds within twenty-four hours, even when no suppuration occurs. This wound-fever, however, is transitory, not high, and entirely different from the prolonged condition of high temperature formerly observed, nearly always, after operations and injuries. The occurrence of this inflammatory, traumatic, surgical, or symptomatic fever, as it was formerly called, means that the patient has been subjected to the poisonous influence of putrefactive germs.

We now know why it is that certain cases of suppuration will not circumscribed but diffuse, so that the pus dissects up the fascias and muscles, and destroys with great rapidity the cellular tissues. This form of suppuration is due to a particular form of bacteria called the pus-forming "chain-coccus." Circumscribed abscesses, however, are due to one or more of the other pus-causing micro-organisms. How much more intelligent is this explanation than the old one that diffuse abscesses depended upon some curious characteristics of the patient. It is a satisfaction to know that the two forms of abscess differ because they are the result of inoculation with different germs. It is practically a fact that wherever there is found a diffuse abscess, there will be discovered the streptococcus pyogenes, which is the name of the chain-coccus above mentioned.

So also is it now easy to understand the formation of what the old surgeons called cold abscesses, and to account for the difference in appearance of its puriform secretion from the pus of acute abscess. Careful search in the fluid coming from such cold abscesses reveals the presence of the bacillus of tuberculosis, and proves that the "cold abscess" is not a true abscess, but a lesion of local tuberculosis. Easy it is now to understand the similarity between the "cold abscess" of the cervical region and the "cold ab-

cess" of the lung in a phthisical patient. Both of them are, in fact, simply the result of invasion of the tissues with the ubiquitous tubercle bacillus; and are not due to pus-forming bacteria.

Formerly it was common to speak of the scrofulous diathesis, and attempts were made to describe the characteristic appearance of skin and hair pertaining to persons supposed to be of scrofulous tendency. The attempt was unsuccessful and unsatisfactory. The reason is now clear, because it is known that brunettes and blondes, old and young, can become infected with the tubercle bacillus. Since the condition depends upon whether the tissues of one or other become infected with the ever-present bacillus of tubercle, it is evident that there can be no distinctive diathesis. In truth, it is more than probable that the cutaneous disease so long described as lupus vulgaris, is simply a tubercular ulcer of the skin, and not a special disease of unknown causation.

The metastatic abscesses of pyæmia are clearly explained when the surgeon remembers that they are simply due to a softened blood-clot, containing pus-forming germs, being carried through the circulation and lodged in some of the small capillaries.

A patient suffering with numerous boils upon his skin, has often been a puzzle to his physician, who has in vain attempted to find some cause for the trouble in his general health alone. Had he known that every boil owed its origin to pus-bacteria, which had infected a sweat-gland, or hair follicle, the treatment would probably have been more efficacious. The suppurative pus-germs either lodged upon the surface of the skin from the exterior, or deposited from the current of blood in which they have been carried to the spot.

I have not taken time to go into a discussion of the methods by which the relationship of micro-organisms to surgical affections has been established; but the absolute necessity for every surgeon to be fully alive to the inestimable value of aseptic and antiseptic surgery, has led me to make the foregoing statements as a sort of resumé of the relation of the germ theory of disease to surgical practice. It is clearly the duty of every man who attempts to practice surgery to prevent, by every means in his power, the access of germs, whether of suppuration, putrefaction, erysipelas, tubercle, tetanus, or any other disease, to the wounds of his patient. This, as we all know, can be done by absolute bacteriological cleanliness. It is best, however, not to rely solely upon absolute cleanliness, which is almost unattainable, but to secure further protection by the use of antiseptic solutions. I am fully of the opinion that chemical antiseptics would be needless, if absolute freedom from germs was easily obtained. When I know that even such an enthusiast as I, myself, am continually liable to neglect, or to forget some step in this direction, I feel that the additional security of chemical antiseptics is of great value. It is difficult to convince the majority of physicians, and even ourselves, that to touch a finger to a door knob, to an assistant's clothing, or to one's own body, may vitiate the entire operation by introducing one or two microbic germs into the wound.

An illustration of how carefully the various steps of an operation should be guarded is afforded by the appended rules, which I have adopted at the Woman's Hospital, of Philadelphia, for the guidance of assistants and nurses. If such rules were taught every medical student, and every physician entering practice, as earnestly as the paragraphs of the catechism are taught the Sunday-school pupil, and they cer-

tainly ought to be so taught, the occurrence of supuration, hectic fever, septicæmia, pyæmia and surgical erysipelas would be practically unknown. Death, then, would seldom occur after surgical operations, except from hemorrhage, shock, or exhaustion.

With this feeble plea, Mr. President and members of the Society, I hope to create a realization of the necessity for knowledge and interest in the direction of the practical bacteriology, for this is the foundation of modern surgery. There is, unfortunately, a great deal of abominable work done under the names of antiseptic and aseptic surgery, because the simplest facts of bacteriology are not familiar to the operator. I have taken the liberty of bringing here a number of culture tubes, containing beautiful specimens of some of the more common and interesting bacteria. The slimy masses seen on the surfaces of jelly contained in the tubes are many millions of individual plants, which have aggregated themselves in various forms as they have been developed as the progeny of the few parent cells planted in the jelly as a nutrient medium or soil.

A CONTRIBUTION TO THE ETIOLOGY OF DIPHtheria.¹

By E. KLEIN, M.D., F.R.S.

THE microbe, which was first described by Klebs at the Weisbaden Congress in 1883, then isolated and grown in artificial cultures by Loeffler ("Mitth. aus dem K. Gesundheitsamte," vol. ii) from human diphtheritic membrane, was shown by this observer to act virulently on various animals. The Klebs-Loeffler bacillus—by which name the diphtheria microbe is known—is the one with which also Roux and Yersin ("Annales de l'Institut Pasteur," II, No. 12) obtained positive results on guinea-pigs.

In the reports of the Medical Officer of the Local Government Board for 1888-89 and 1889-90, I have shown that there occur in diphtheritic membranes two species of bacilli, very similar in morphological respects, and also in cultures on serum and on agar, but differing from one another in this, that one species (Klebs-Loeffler bacillus No. 1) is not constant in diphtheritic membranes, does not grow on solid gelatine at 19-20° C., and does not act pathogenically on animals; the other species (Klebs-Loeffler bacillus No. 2) is constant in diphtheritic membranes; in fact, is present even in the deeper layers of the membranes in great masses and almost in pure culture, acts very virulently on animals, and grows well on gelatine at 10-20° C. Loeffler, and after him other observers (Flügge, "Die Mikro-organismen," 1886) considered it as a character of the diphtheria bacillus that it does not grow on gelatine below 22° C.; but this character, though true of the Klebs-Loeffler species No. 1, does not appertain to the diphtheria bacillus species No. 2. In fact, there is no difficulty in obtaining pure cultures of this bacillus on gelatine if a particle of diphtheritic membrane be taken and well shaken in two or three successive lots of sterile salt solution, and from the last lot plate cultivations on gelatine are made. In this way I have obtained the diphtheria bacillus in great numbers of colonies and in pure culture. Zarniko ("Centr. f. Bact. u. Para-

sit.," vol. vi, page 154) and Escherich (*Ibid.*, vol. vii, p. 8) both state that the diphtheritic bacillus does grow on gelatine below 20° C.

This bacillus diphtheriæ acts very virulently on guinea-pigs on subcutaneous inoculation: at the seat of the injection a tumor is produced, which, in its pathology and in microscopic sections, completely resembles the diphtheritic tissue of the human. In human diphtheria, the diphtheria bacillus is present only in the diphtheritic membrane, but neither in the blood nor in the diseased viscera; the same holds good for the experimental guinea-pigs. In subcutaneous inoculation with artificial culture, though it causes in these animals acute disease and death—the lungs, intestine and kidney are greatly congested—the diphtheria bacillus remains limited to the seat of inoculation. It was for these reasons that Loeffler concluded that in diphtheria the diphtheritic membrane alone is the seat of the multiplication of the diphtheria bacillus, and that here a chemical poison is produced, which, absorbed into the system, causes the general diseased condition, and eventually death. Roux and Yersin have then separated from artificial broth cultures the bacilli and the chemical products, and, by the injection of these latter alone into guinea-pigs, have produced a general effect. I have, in this year's report to the Medical Officer of the Local Government Board (1889-90), shown that, in these experiments of injections of cultures into guinea-pigs, an active multiplication of the diphtheria bacilli at the seat of inoculation can be demonstrated by culture experiments; from the local diphtheritic tumor and the nearest lymph-glands the diphtheria bacilli can be obtained in pure culture on gelatine.

On various occasions during the last three years information has reached me by Health Officers (Dr. Downes, Mr. Shirley Murphy, Dr. Thursfield) as to a curious relation existing between a mysterious cat disease and human diphtheria in this manner: that a cat or cats were taken ill with a pulmonary disease, and, while ill, were nursed by children, and then these latter sickened with well-marked diphtheria. Or children were taken ill with diphtheria, and either at the same time or afterwards the cat or cats sickened. The disease in the cat was described as an acute lung trouble: the animals were quiet, did not feed, and seemed not to be able to swallow. In some cases they recovered; in others they became emaciated, while the lung trouble increased, and ultimately they died. In one instance—in the north of London, in the spring of 1889—this cat malady, occurring in a house where diphtheria soon afterwards appeared amongst the children, was of a widespread nature. A veterinary surgeon—Dr. Daniel—informed me that, at that time, he had several patients among cats affected with the disease, consisting in an acute catarrhal affection, chiefly of the respiratory passages. He furnished me with two such animals: one that, after an illness of several weeks, had died, another that was sent to me in a highly emaciated state, affected with broncho-pneumonia; this animal was paralyzed on the hind limbs. In both instances the post-mortem examination showed severe lung disease, broncho-pneumonia, and large white kidneys, due to fatty degeneration of the entire cortex. A similar condition is met with in the human subject in diphtheria. Further, I received from Dr. Thursfield, of Shrewsbury, the body of a cat that had died after a few days' illness from pneumonia, in a house in which children were ill with diphtheria; another cat in the same house, that became next ill with the same lung trouble, also succumbed. The post-mortem examination of the

¹ This research was undertaken for the Medical Department of the Local Government Board, and is communicated to the Royal Society with the permission of the Medical Officer. A paper read before the Royal Medical Society, London, May 22, 1890; reprinted from proof-sheets given by Dr. Klein to Dr. Hewitt. Advance sheets of "Public Health in Minnesota," Vol. VI., No. 4.

animal that I received showed severe broncho-pneumonia and large white kidneys, the entire cortex being in a state of fatty degeneration.

Subcutaneous inoculations of cats were carried out with particles of fresh human diphtheritic membranes and with cultures of the diphtheria bacillus (report of Medical Officer of the Local Government Board, 1889-90); thereby a local diphtheritic tumor was produced at the seat of inoculation, and a general visceral disease; in the cases in which death followed after a few days the lungs were found much congested; when death followed after one or more weeks, the lungs showed broncho-pneumonia, and the kidneys were enlarged and white, the cortex being in a state of fatty degeneration; if the disease in the animals lasted beyond five to seven days both kidneys were found uniformly white in the cortex; if of shorter duration, the fatty degeneration was sometimes only in patches. Although in these experiments the bacillus diphtheriæ was recoverable by cultivation from the diphtheritic tumor at the seat of inoculation, there were no bacilli found in the lung, heart's blood, or kidney, and the conclusion is justified that, just as in the human diphtheria and in the diphtheria produced by subcutaneous inoculation in the guinea-pig, so also in these experimental cats the visceral disease must be a result of the action of a chemical poison produced by the diphtheria bacillus at the seat of inoculation.

From this it is seen that the similarity between the artificial disease and the natural disease in the cat is very great, and the question that presents itself is, In what manner does the animal receive or give the diphtheritic contagium in the natural disease? The natural disease in the cat is, in its symptoms and pathology, a lung disease, and it is reasonable to suppose from analogy that the lung is the organ in which the diphtheritic process in the cat has its seat. The microscopic examination of the diseased lung of cats that died from the natural disease bears this out, the membrane lining the bronchi in the diseased portions of the lobules presenting appearances which in microscopic character coincide with the appearances in the mucous membrane of the human fauces, pharynx, or larynx in diphtheria. But the correctness of the above supposition, that diphtheria has its seat in the lung of the cat naturally diseased, was proved by direct experiment. Broth culture of the bacillus diphtheriæ was introduced into the cavity of the normal trachea without injuring the mucous membrane. The animals became ill with acute pneumonia, and on post-mortem, two to seven days after, there was found extensive pneumonia, and fatty degeneration of the kidney. The bronchi, infundibula, and air cells of the inflamed lobules were found occluded by, and filled with, exudation which, under the microscope, bears a striking resemblance to human diphtheritic membranes, and in the muco-purulent exudation in the large bronchi and trachea the diphtheria bacilli were present in large numbers.

During the last ten or twelve years certain epidemics of diphtheria have occurred which were traced to milk, but the manner in which that milk had become contaminated with the diphtheritic virus could not be demonstrated, although the evidence as to the milk not having been polluted from a human diphtheria case was very strong. The epidemic of diphtheria that prevailed in the north of London in 1878, investigated by Mr. Power for the Local Government Board; then the epidemic that occurred in October, 1886, at York Town and Camberley; the epidemic in Enfield at the beginning of 1888, and in Barking toward the autumn of 1888, were epidemics of this

character. Mr. Power, in his report to the Local Government Board on the York Town and Camberley outbreak, states (page 13) that a veterinary surgeon has certified that the cows from whom the infected milk was derived were all in good health, but that two of the cows showed "chaps" on their teats, and he adds that even two or three weeks after the epidemic had come to an end—the use of milk having been in the meanwhile discontinued—he saw at the farm one cow which had suffered chapped teats. At Enfield a veterinary inspector had also certified that the cows were in good health; but at Barking the veterinary inspector found sores and crusts on the udder and teats of the cows.

I have made experiments on milch cows with the diphtheria bacillus, which appear to me to throw a good deal of light on the above outbreaks of diphtheria.

Two milch cows were inoculated with a broth culture of the diphtheria bacillus derived from human diphtheria. In each case a Pravaz syringe was injected into the subcutaneous and muscular tissue of the left shoulder. On the second and third days there was already noticed a soft but tender swelling in the muscle and the subcutaneous tissue of the left shoulder; this swelling increased from day to day, and reached its maximum about the end of the week; then it gradually became smaller but firm. The temperature of both animals was raised on the second and third day, on which days they left off feeding, but after this became apparently normal. Both animals exhibited a slight cough, beginning with the eighth to tenth day, and this gradually increased. One animal left off feeding and ruminating on the twelfth day, "fell in" considerably, and died in the night from the fourteenth to fifteenth day; the other animal, on the twenty-third to twenty-fourth, left off taking food, "fell in" very much, and was very ill; it was killed on the twenty-fifth day.

In both animals, beginning with the fifth day, there appeared on the skin of the udder, less on the teats, red raised papules, which in a day changed into vesicles, surrounded by a rim of injected skin. The contents of the vesicles was a clear lymph, the skin underneath was much indurated and felt like a nodule; next day the contents of the vesicle had become purulent, *i. e.*, the vesicle had changed into a pustule; in another day the pustule dried into a brownish-black crust, with a sore underneath; this crust became thicker and larger for a couple of days, then became loose, and soon fell off, a dry, healing sore remaining underneath. The whole period of the eruption of papules, leading to vesicles, then to pustules, and then to black crusts which, when falling off, left a healing dry sore behind, occupied from five to seven days. The eruption did not appear in one crop; new papules and vesicles came up on the udder of one cow almost daily between the fifth and eleventh day after inoculation, in the other cow between the sixth and tenth day; the total number of vesicles in the former cow amounted to about twenty-four on the udder, four on the teats; in the latter they were all on the udder, and amounted to eight in all. The size of the vesicles and pustules differed: some were not more than one-eighth of an inch, others larger, up to one-half and three-quarters of an inch in diameter; they had all a rounded outline, some showed a dark center. From one of the above

¹ The cows had been kept under observation previous to the experiment for ten days, and were in all respects perfectly normal.

cows, on the fifth day, milk was received from a healthy teat, having previously thoroughly disinfected the outside of the teat and the milker's hand. From this milk cultivations were made, and it was found that thirty-two colonies of the bacteria bacillus without any contamination were obtained from one cubic centimeter of the milk.

Unlike in the human, in the guinea-pig and in the cat the diphtheria bacillus passed from the seat of inoculation into the system of the cow; this was proved by the demonstration of the diphtheria bacillus in the milk. But also in the eruption on the udder, the presence of the diphtheria bacillus was demonstrated by microscopic specimens, and particularly by experiment. With matter taken from the eruption—vesicles and pustules—of the udder, two calves were inoculated into the skin of the groin; here the same eruption made its appearance: red papules, rapidly becoming vesicular, then pustular, and then became covered with brown-black crusts, which, two or three days after, became loose, and left a dry, healing sore behind. More than that, the calves that showed this eruption after inoculation became affected with severe broncho-pneumonia and with fatty degeneration of the cortex of the kidney. In the two cows above mentioned, on post-mortem examination, both lungs were found highly congested, cedematous, some lobules almost solid with broncho-pneumonia in the upper lobes and the upper portion of the middle or lower lobe respectively; the plural lymphatics were filled with serum and blood. Hemorrhages in the pericardium and lymph glands, and necrotic patches were present in the liver. At the seat of inoculation there was, in both cases, a firm tumor consisting, in necrotic diphtheritic change, of the muscular and subcutaneous tissue. In this diphtheritic tumor continuous masses of the diphtheria bacillus were present; their gradual growth into, and destruction of, the muscular fibers could be traced very clearly.

It appears, then, from these observations, that a definite disease can be produced in the cow by the diphtheria bacillus, consisting of a diphtheritic tumor at the seat of inoculation, with copious multiplication of the diphtheria bacillus, a severe pneumonia, and necrotic change in the liver; the contagious nature of the vesicular eruption on the udder and excretion of the diphtheria bacillus in the milk prove that in the cow the bacillus is absorbed as such into the system.

From the diphtheritic tumor by cultivation, pure cultures of the diphtheria bacillus were obtained; a small part removed from the tumor with the point of the platinum wire, and rubbed over the surface of nutrient gelatine or nutrient agar, yielded innumerable colonies of the diphtheria bacillus without any contamination. In cultural characters in plate, streak, and stab cultures, and in cover glass specimens of such cultures, this cow diphtheria bacillus coincided completely with the human diphtheria bacillus; but in sections through the diphtheritic tumor of the cow a remarkable difference was noticed between it and the bacillus from the cultures, inasmuch as in the tissue of the tumor masses of the microbe, both in the necrotic parts, as also where growing into and destroying the muscular fibers, were made up of filaments which in aspect resembled, to a considerable degree, the hyphæ of a mycelial fungus. But that it was really the diphtheria bacillus was proved by culture experiments and by cover-glass specimens. In the latter the transitional forms between typical diphtheria bacillus and long filaments with terminal

knob-like swellings, with spherical or oblong granules interspersed here and there in the threads, could be easily ascertained. In the large number of cultivations that were made of the fresh tumor in both cows, the colonies obtained were all of one and the same kind, viz., those of the diphtheria bacillus; no contamination was present in any of the cultivations.

OUR INSANE HOSPITALS.

BY A. F. MYERS, M.D.
BLOOMING GLEN, PA.

IN the issue of June 7, page 550, is an article that deserves more than a mere passing notice. Its purport is the advocating of the mode of administration of a few of our State Insane Hospitals—the plan of a physician superintendent who shall be the head of the institution as physician, chief executive officer of the respective boards of trustees, purchasing agent, etc. etc. The intent of the article may be obvious enough to those who have been watching the course of our insane hospitals the last thirty years. But to the unobserving it may be a hint that there is still something silently back of all this.

If any of our hospitals for the insane are on too radical a plan, as referred to in the resolution under consideration, it is the plan that was adopted for a few of our State institutions many years ago, and should be changed at once. New things are not always the best, but it is a fact that a few of our hospitals conducted on the plan of forty years ago, are too radical the wrong way. The intent and purpose of them were considered the best at that time, but years have wrought a change; better ones have been adopted, and the good results have proven them of eminent fitness in every possible way.

Probably none of our State institutions can boast of perfection, yet, in the eyes of the public, some are conducted on better plans than others. By the mode of administration of a few of our insane hospitals organized among the first in this State, the figurehead of the institution is superintendent, physician, chief executive officer of the various boards, purchasing agent and general business manager, a kind of "shot gun prescription like," so to say—a principle that is beset with many dangers by the way.

This plan gives to the head a power that may be conducive to a great amount of good; but, on the other hand, if put in the hands of an unscrupulous man the prospective welfare of the whole institution is bad. The various boards of trustees are under his control, being shorn of their power by delegating to one man their power to act. All the employés must dance to his piping, right or wrong. Many of the subordinate physicians employed by him are young men, full of theory, but lamentably poor in experience; employed for economical reasons, and the unfortunate populace are at his mercy. Oh, what a sad condition of affairs!

For this there is no redress. If a wrong is committed, the attendant keeps silent, and the patient is quieted by subjection. If cruelties occur, and perhaps terminate fatally, the corpse is sent home, or buried there; and with this final act ends all investigation. Inquests are rarely held. Complaints may be made but they will only be carried to the head of the institution, with only one man's sweet will to act upon—the powerless boards to confirm his report that is never made public—and the result is apparent.

But this condition of affairs is all wrong. The various boards of trustees should be an independent

body, with power to act, only subject to the power of the State and the will of the people. Let the public know regularly of its finances; how their money is spent; its progress and management. If money is squandered, let the culprit be discharged at once; if cruelties are committed, let the guilty party be punished according to law. Let no indulgent laws exist, or unlimited privileges be granted to any one. The vesting of unnecessary powers in any one man is never void of danger, even with the best of men. The last decade has fully proven this.

None but the best of physicians should be employed; only as physicians and nothing more. Only such that have had ample experience and been eminently successful in their chosen profession. These unfortunate patients require just this kind of attention. The remuneration should be adequate, so as to command the ablest medical men.

The female department should, by all means, be under competent female supervision. Many of the causes of insanity among females are peculiar to their sex, and should be looked after by physicians of their sex. Is it probable that they will confide their misfortunes or shortcomings to a young male attendant or physician who has not a particle of sympathy with their misfortune? By no means. For humanity's sake, if for no other reason, let our poor unfortunate women have the proper medical attendance. There are many female physicians who are celebrated for their knowledge and skill to care for this class of patients, and should be employed.

A good superintendent, together with a full corps of competent attendants and employes, should be procured to keep the buildings and surroundings in full accord of the requirements and condition of affairs as they should exist at such a place. The buildings should be kept perfectly clean and neat, and the grounds and surrounding scenery in strict harmony with what nature intended it to be. Proper hygienic principles should be carried out to perfection. What a grand opportunity to do much good unto the unfortunate!

Various visiting, charitable and investigating boards, should have the proper privilege of seeing how the institution is conducted. The time of visiting of the various boards should not be known beforehand by any of the employes of the institution. All business transacted by the board of trustees should be open for inspection. Inmates and attendants should have a legitimate means of presenting their grievances to the proper parties, so as to avoid, or correct any injustice done. Visiting by the curious public should be regulated, no improper liberties allowed; yet the public, if properly admitted can do something to elevate the fallen from their sorrowful condition.

There is no attempt at describing an ideal picture, not at all. These ideas are deducted from facts that are still in actual existence. We hope the days of autocratic superintendence of insane hospitals will soon be relegated to the past.

THE pioneer school for male nurses in this country is in connection with the Bellevue Medical College in New York. The Superintendent of this training-school is a woman, Mrs. O. S. Willard, a graduate of the Bellevue School for Women Nurses. Six young women, graduates of the same establishment, give ward instruction to the men, there being, it is said, no male nurses to be found who are competent to this task.

The Polyclinic.

PHILADELPHIA HOSPITAL.

ENDOCARDITIS.¹

THE first case that I will show you is a child whose temperature is normal, but the child is ill-nourished and weak and somewhat anæmic. On auscultation a loud, harsh murmur is heard over the heart with the systole, seeming to be a mitral murmur, and resembles very much the murmur that is heard in a dilated heart of an adult. You observe that this child is not cyanotic. When you hear a murmur over the auricles of the heart, always be on the lookout for congenital malformation, or a failure of the foramen ovale to close. An open foramen will be attended sooner or later by cyanosis. The oldest case of which I know, in which the foramen did not close, was a girl sixteen years of age. She had to sit up and was almost asphyxiated, and had to be sustained on digitalis and whiskey, with inhalations of oxygen gas. She died some time later, and the diagnosis was confirmed. In an infant as young as this one the symptoms are not so prominent, and its trouble may be endo-, or pericarditis. The trouble is chronic. I think it is endocarditis, but the fact that there is no cyanosis does not preclude an open foramen ovale.—Davis.

PNEUMONIA.

A woman, aged thirty-three years, was brought into the hospital in the last stages of her life, and no history could be obtained. The patient was in a dying condition, and physical examination revealed complete solidification in the lower lobe of the lung, and justified the diagnosis of pneumonia. Temperature ranged from 103.5°-101° F., before death.

A few days after the death of the mother, the child, one year old, was taken ill. The mother nursed the child until a few days before she died. The child's temperature was 102° F., and pulse one hundred; respirations thirty-six to forty-eight. Physical examination showed pneumonia. Physical signs were well marked; solidification at the apex, with amphoric breathing. The interesting point is this: Is this a case of direct contagion of pneumonia from the mother? If there ever was a case of contagion of pneumonia, this is certainly one. There is a possibility of acute tubercular infection in this child, but the signs are those of pneumonia. It is getting stimulants. The temperature is lower than it was; the child is not fretting and is not cyanosed. While the prognosis is not absolutely hopeless, yet we fear either croupous pneumonia or beginning tuberculosis. If the child has croupous pneumonia, it will get well. If it is tuberculosis, it will die.

[NOTE.—One week later, the child was still living and not much improved. In all probability, it will die; and the post-mortem examination can only confirm the diagnosis.]—Davis.

ACUTE PHTHISIS.

The next case is that of a woman well-advanced in pregnancy, who demonstrates some interesting points as to another affection. Her age is twenty years. Her father and mother both died of phthisis. She always considered herself well. Soon after her last menstrual period she began to cough; has night-sweats, and expectorates freely. No pain in the re-

¹ Reported by William Blair Stewart, M.D.

gion of her kidney. Urine is acid; specific gravity is one thousand and thirty, and the sediment consists of fine granular casts. No albumen or sugar present. She has a contracted pelvis also. Her general condition is one of acute tuberculosis, complicating pregnancy. We could not hear the foetal heart-sounds; there is no evidence of diminution in the size of the abdomen, but there is reason to fear that the foetus is dead. The patient's face is flushed from weakness, and her condition is one of extreme anæmia; she cannot lie on her back without a great deal of suffering. Even in this position, with the patient lying on her side with the legs flexed, I cannot palpate with any degree of satisfaction, on account of the tense abdominal walls and rapid respiration. It is difficult to determine just what course of action to take in this case. Why not induce labor at once?

It is a well known fact that women suffering with tuberculosis have easy labors, as a rule, and can give birth to large-sized children, with little difficulty. The tissues become relaxed, they have good pains and do not suffer much; and this is a practical reason for not inducing labor. Even if we did induce labor, we would not render the tuberculosis any better. It is better to let her go on to full term, and when labor comes on perform craniotomy if it is impossible to deliver with the forceps. Why not resort to Cæsarean section? The foetus is affected with the tubercular diathesis, in all probability, and it would not be justifiable to further endanger the mother's life by such a procedure. Another new feature has been brought into the case, by the presence of fatty granular casts in the uterine, and this also makes the case more grave. Creasote and alcoholic stimulants, with the very best diet, constitutes her treatment.

Recently I saw some specimens of tubercular infection that have an interesting history.

A Boston family had a child born to them that they had occasion to wean, and for its nourishment they selected the milk of one cow only. The cow was apparently healthy, as was the child. Soon the child began to droop, and, eventually, died of tubercular disease. A second child of the family, fed from the milk of the same cow, is now sick, and will, probably, die with a tubercular infection. This led the family to send the cow's milk to an eminent bacteriologist for examination. Some of the milk was injected subcutaneously under the skin of four rabbits, and three of them are now dead. The cause of death was miliary tuberculosis. Here, then, so far as "seeing is believing" is concerned, we have a direct contagion of tuberculosis from the milk of an infected cow.

The statement has recently been made that tuberculosis is rare in persons who are careful in the use of meat and milk. Tuberculosis may be conveyed from mother to child in the same way. You need not send a person to their grave because they have tuberculosis; but send them early to Colorado, and they may there recover. Do not send a patient away when he is far advanced in tuberculosis, for he will die in spite of all changes. A number of rabbits were inoculated with tuberculosis; one-half were comfortably housed and surrounded by the best hygiene, and recovered; the other half were put in a dark, damp place, with poor hygiene, and all died. Here is a practical lesson.

[NOTE—An unsuccessful effort was made in this case, at a later date, to induce labor, as it was found that to continue would endanger the life of the mother. She is very weak, and her end is about reached, and it has been decided, in the interest of the child, to perform a hasty Cæsarean section, just

at the moment the mother dies. As it is, there is a doubt whether the child is living; but it will be given every chance for its life, in case it is alive.]—Davis.

MEDICO-CHIRURGICAL COLLEGE AND HOSPITAL.

FIRST FIVE YEARS' REPORT OF THE EYE CLINIC.

ON the reorganization of the Medico-Chirurgical College in 1884, it was necessary to open clinics for the purpose of getting material for practical teaching and demonstration to the students who might attend. With this point in view, in December of that year, I arranged a small room on the third floor of the building southwest corner Market and Broad streets, where the college was located at that time. At the same time general clinics were opened in another room; but no hospital accommodations were furnished, for want of proper places and conveniences. After some time the hospital was organized, and two large rooms in the building were fitted up for patients, but unfortunately none with the proper accommodations for eye diseases; so that it was not until after the college and hospital were removed, in 1888, to the present locality on Cherry street, between Seventeenth and Eighteenth streets, that the proper conveniences for the admission of eye patients undergoing operation could be afforded, especially admittance into wards, alone and away from other diseases and operations, which could not be had until last year; so that really operations of cataract, iridectomy, etc., were mostly made during that time.

In a large city where there are many hospitals and clinics already established, it is no easy matter to build up new ones, at once affording material enough for teaching, but whether from the locality or some other causes, there seems to have been a large increasing attendance from the first opening of all the departments in connection with this hospital, which is seen by the general reports of the institution.

In the eye clinic, during the past five years, that is from the opening in December, 1884, to December, 1889, 3,247 cases were treated, classified as follows: Affections of the lids and eye-brows, 290; lachrymal apparatus, 89; conjunctiva, 317; cornea and sclerotic, 387; crystalline lens, 148; iris and ciliary body, 87; choroid and vitreous, 89; retina and optic nerve, 78; eye-ball, 31; orbit and vicinity, 4; muscular and nervous system, 175; anomalies of refraction and accommodation, 1,452. Total, 3,247.

The number of operations performed before the class of students was 368; as follows: Cataract, 44; iridectomy, 15; abscission of the cornea, 1; enucleation of eye balls, 29; cornea and conjunctiva, 124; lachrymal apparatus, 39; lids and eye-brows, 68; muscles, 40; orbit and vicinity, 2; evisceration or exenteration of eye-ball, 6.

During the summer of 1889 a series of dispensary rooms was made to accommodate the different departments for the reception and treatment of the various medical and surgical diseases that present themselves, and in this arrangement increased facilities have been given for the eye department, and the daily attendance has been steadily increasing.—Keyser.

PICHI was introduced as a remedy for cystitis. Rusby (*Med. Record*) quotes a number of reports upon the drug, showing it to be of special value in acute cystitis occurring with childbirth, surgical operations, nephritis or gonorrhoea. In chronic cystitis it gave relief; it proved useful as an antilithic, but failed as a lithontriptic.

The Times and Register

A Weekly Journal of Medicine and Surgery.

New York and Philadelphia, July 19, 1890.

WILLIAM F. WAUGH, A.M., M.D., Managing Editor.

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THERE is a serious split in the eclectic ranks in Indianapolis. The State Medical Association has repudiated the college which, according to the *Free Lance*, has fallen into the hands of one W. P. Adkinson. This personage secured a controlling interest in the capital stock of the college, elected a board of his own choice, and got this board to confer on him the degree of Doctor of Medicine. This action is said to have been illegal, as the charter limited each holder of stock to a single vote; irrespective of the number of shares held. For these reasons the Indiana Eclectic State Medical Society repudiates the Medical College, and the eclectic journal follows suit; and every one honors them for the manly stand they have taken.

The history of eclecticism is peculiar. It arose from a reaction against the excessive use of depressants; the elements of its popularity are to be found in the natural dislike of our people to uniformity in belief and practice, the plea that our native drugs were neglected for the imported articles to whose use the profession was habituated, and the encouragement the system gave to that home medication so dear to the housewife's heart. Each of these exerted an influence favoring the popularity of eclecticism.

Americans dislike uniformity. We are never satisfied with a good thing, because we think there is a better. England treats dysentery with lead and opium, just as she did a century ago; we have a new remedy every season; just as we have a new religious sect or political heresy. And no scheme, religious, politics or medical, can be broached here which does not win a following respectable in numbers.

As to the second element there was, besides the impulse of patriotism, a certain plausibility in the idea that between the diseases of a country and its remedial plants there was such a relation that the latter would be specially curative of the former. There is no doubt whatever, that we did neglect our native medical plants, and that we have not even yet given them the attention they merit.

The preparation of "teas" has always been popular with women, whose tender hearts impel them to be actively engaged in "doing something" to relieve

the sufferings of the afflicted. The villainous decoctions of the Thomsonian, however, have given place to a valuable line of preparations, the powdered extracts; which are to-day well worth the attention of the profession. They have the convenience of the alkaloids, while better representing the full medicinal virtues of the plant.

The remedies employed by eclectics differ from those of our homœopathic brethren in that the former have really efficient drugs, producing effects quite as decided as those of the mineral salts. So far as it goes, then, the eclectic practice is a true and legitimate one; and the only fault we can find with their system is the limitation of their therapeutics to vegetable remedies, instead of extending it to embrace *all* that can assist in bringing health to the patient.

But in its practical workings another very serious objection is to be urged against that school, in that from it have sprung nearly all those notorious vendors of bogus diplomas who have brought such disgrace upon the name of American medicine. The founders of the school not being educated physicians, it was natural that they should not set much importance upon the possession of what Hahnemann calls "the lore of the medical schools," and which, as an educated physician himself, he particularly urges his followers to acquire. The Buchanans, Paynes, etcetera, assumed the cloak of eclecticism; the Philadelphia Eclectic Colleges left such a stink in the public nostrils that no school of that sect could exist here. And now the Indiana College, with a Dean whose medical degree has just been voted him by a board elected by himself, as principal owner of the school, is not likely to pursue a very different course. But there are good men in eclecticism, as shown by the action of the Indiana Society; men whose qualities give strength to a system which would otherwise disappear; as the profession realizes the value of the eclectic preparations, and the eclectic is educated out of his narrow limits. If the Association of American Medical Colleges next summer decides to admit the graduates of eclectic colleges to the graduating classes of our own schools, provided they can pass the same examinations required of our own second-year students, the separate existence of that sect will be short lived.

Annotations.

FOR the treatment of gout, Rademaker (*American Pract and News*) claims specific virtues for a combination of colchicine, decandrine, and solanine, with potassium iodide; the alkaloids neutralized with hydriodic acid and sodium salicylate added. This is made into an elixir and denominated "solution of triple hydriodates, with salicylate of soda."

The name is objectionable, in that it does not give any hint of the presence of three very active alkaloids; none of them safe if taken incautiously, or of the iodide of potassium, which surely deserves recognition as well as the salicylic salt; especially as the author is compelled to caution the reader against the tendency of the preparation to produce iodism. How would this answer: "Compound iodo-salicylated colchicine elixir?"

SUIT has been entered to restrain the city from closing up the Wingohocking creek, by the owner of a mill that uses the water for power. This creek has long been an open sewer, which in some parts of its course threatens the health of Germantown. Part of the stream is covered by a culvert; and at the point where this culvert ends, diphtheria and kindred diseases prevail to a greater extent than over any other part of the course of the stream. It would seem as if the free diffusion of exhalations were less apt to be dangerous than those which are confined by the culvert and find exit at one point. The indication is to cover in the exposed portions of the stream, and provide for the ventilation of the whole culvert. Partial closure is worse than none at all.

SPASMATIC torticollis is rarely more than temporarily benefited by surgical measures, but Mayo Collier, in *The Lancet*, relates a more fortunate case. A girl of twenty-one years, with extreme torticollis of six years' standing. The head was severely rotated far to the right every few seconds, continuing with less violence during sleep. She had been dosed with drugs innumerable, galvanized, blistered, tonsils removed, galvano-cautery applied to back of throat, with no good effect.

The spinal accessory nerve was found, and followed into the sterno-mastoid some distance, using moderate traction on the nerve, but avoiding injury to the muscle. A loop of silver wire was placed around the nerve, as far up as possible, just twisting the ends to insure slight compression. The ends of the loop were left protruding from the wound. On emerging from the anæsthesia the spasms had ceased, and have never appeared since. The ends of the wire were cut close to allow the skin to grow over them.

STROPHANTHUS has been investigated by Bucquoy, whose conclusions are, in the main, confirmatory of those of Frazer. The drug is indicated by ventricular incompetence. It increases the ventricular force and lessens the pulse, but does not contract the arteries like digitalis. Strophanthus acts best in aortic valve disease, as the increased ventricular force is better shown here than when partly lost through mitral insufficiency. As in aortic diseases, there may be no compensatory hypertrophy. Strophanthus here occupies just the gap left by digitalis, as the latter has long been distrusted in aortic cases.

Strophanthus is said to be of less permanence as its effects than digitalis. Clinical observation appears to show that the new drug is less decided in its action. The indications for its use are, however, so sharply differentiated from those of digitalis, that with comparative uniformity in the quality of the preparations to be found in pharmacies, strophanthus ought to supersede digitalis in nearly all cases, except when a hemostatic effect is desired, or the certain and rapid action of digitalis is needed in emergencies.

Letters to the Editor.

COAL OIL.

COAL oil has quite a reputation as a remedy in intussusception and fecal impaction. I have only used it in the former affection. We know that, mechanically, this oil is quite searching and penetrating. Just how it acts in intussusception, I am not

prepared to say. It is my opinion, however, that its action is mechanical; working its way along the folds of invaginated and inflamed bowel, perhaps carefully breaking up the products of inflammation, and being gently moved on by the volume of water behind, the displaced portion of the bowel floats to its normal position. To illustrate roughly, call to mind a flock of sheep; "one go, all go." I fail to see where anything is gained by passing a tube into the bowels. For, unless the tube is passed well into the transverse colon, or the hips well elevated, the water will follow the tube back and the flushing must begin at the sphincter. I placed my patient in the knee and breast position, where he easily took one pint of coal oil followed by four pints of warm water. He was then directed to lie on his right side and retain the injection as long as possible. This was repeated every four hours. Patient made a good recovery.

GEO. CHAFFEE, M.D.,

1047 Third Avenue, Brooklyn.

HONOR WHERE DUE.

I AM in receipt of a sample copy of THE TIMES AND REGISTER, dated July 15, 1890, which contains a summary of the proceedings of the Ohio State Medical Society. In this summary there are remarks reported as made by myself concerning the use of chloroform in labor. Now, while I am in accord with those remarks made in the discussion of Dr. J. F. Baldwin's paper on The More Frequent Use of Chloroform in Obstetrics, yet I did not make them. They were offered by Dr. C. B. Ferrell, of 78 South Third St., Columbus, O. "Honor to whom," etc.

W. W. PENNELL.

Book Reviews.

HOW TO PRESERVE HEALTH. By LOUIS BARKAM, M.D. New York, 1890. Cloth. Pp. 344. Price, \$1.00.

A question of the first importance, and one that we should always be ready to give advice upon.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume II. Second Session, held at Nashville, Tenn., Nov. 12, 13, and 14, 1889. Published by the Association, 1890.

The volume contains papers by Maury, Roberts, Hardon, Haggard, Wathen, Johnstone, J. Price, Robinson, Engelmann, Davis, Brokaw, Hadra, McMurry, Douglas, Lydston, Stone, Browne, Meriwether, Mathews, Nicholson, Kollock, Goggans, Claiborne, McRae, Laphorn Smith, Briggs and Johnson.

RHEUMATISM AND GOUT. By F. LEROY SATTERLEE, M.D., Ph.D. Detroit, Mich.: George S. Davis. Pp. 83. Cloth, 50c.; paper, 25c.

Dr. Satterlee tells us that he has himself suffered from the ailments which he describes. This renders the book of special value, as it is not often we get one written under such circumstances.

In acute rheumatism he lays much stress upon the use of cholagogues, giving the following formula:

R. — Euonymin gr. $\frac{1}{4}$
Podophyllin gr. $\frac{1}{8}$
Aloin gr. $\frac{1}{8}$

M. S. — One tablet twice daily, as required.

He objects to the salicylates on grounds which show a very exceptional experience or a no less exceptional lack of skill in their use on his part. His preference is for the alkalies, which he gives in the following forms:

R.—Potassii bicarb. 3ij-3ij
 Aquæ destillat. f $\frac{3}{4}$ viij

M. S.—One fluidounce to half an ounce of fresh lemon-juice; to be taken while effervescing.

R.—Lithii benzoat. 3ss
 Sodii bromid.,
 Potassii carbonat. pura. āā 3ij
 Potassii acetat. 3ss
 Sodii phosphat. 3ss.
 Syr. zingiberis,
 Aq. menth. pip āā ad 3vj

M. et Sig.—f3ij to f3ss, in half a glass of water, every four or six hours, after food.

He states that this mixture of three bases combined with five acids is effectual and agrees well with the stomach.

In *Zeitschrift für Physiologische Chemie*, Vol. xiv, No. 5, Trasaburo Araki, of Strassburg, "On the Coloring Matter of the Blood and its Derivatives," shows that the usual spectroscopic characters of methæmoglobin are deceptive and due to the presence of other substances especially oxyhæmoglobin, and that true spectra cannot be obtained of this substance so long as the solutions are either acid or neutral in reaction. In pure methæmoglobin solutions, the band in the green almost disappears, while that in the red becomes more developed. Some further researches on sulphur-methæmoglobin are given, and its identity with the green color of decomposing flesh is noted.

Dr. Herm. Karl Ludwig Baas, of Worms, discusses the changes of fats in the alimentary canal.

Paul Mana-se, of Berlin, contributes "On the Le-cithin and Cholesterin of the Red Blood Corpuscles." He cites the experiments from 1846 to the present time, of, in the order named, Gobley, Fremey, Liebreich, Parke, Hoppe-Seyler, and Dinkonow, who, collectively, had succeeded in demonstrating the existence of these substances, in yolk of egg, ova of fish, brain substance, bile and the red blood corpuscles, but, owing to the difficulty of isolation, their chemical identity had not been clearly established. By a series of experiments, faithfully detailed in the article, he claims to have settled this question.

Fredrick Reinitzer, "On the True Nature of Germ Ferments," deals with a question related principally to vegetable physiology, and, therefore, not of direct concern to the medical man.

"A Contribution to the Chemistry of Horny Matters," by Prof. E. Salkowski, of Berlin, based on a series of experiments, in which the professor was assisted by Dr. Ken Taniguti, of Japan, and looking to the physiological and chemical rôle of kreatinin, ends the number.—Samuel Wolfe, M.D.

Pamphlets.

Climatology and Diseases of Southern California. By F. D. Bullard, A.M., M.D. Reprinted from the *Southern California Practitioner*.

Ordinances of the City of Leavenworth, Kansas, relating to the Preservation of the Public Health. Compiled by C. F. W. Dassler, City Attorney, and W. D. Bidwell, M.D., Secretary of the City Board of Health. June, 1890. Leavenworth, Kan.: Ketheson & Reeves, Printers and Engravers.

Judging from these ordinances, the Kansas town gives a heed to its sanitary advisors that some older communities would do well to imitate.

WOULD you rather belong to a family noted for long heads or for long livers?

The Medical Digest.

LOVIOT has described a case in which an intestinal calculus, the size of a small orange, was produced by the immoderate use of Vichy salts.

ANALYSIS of Armour's meat extract shows it to consist of 68 per cent. water, 20 nitrogenous extractives, and 12 salts. This is a much greater proportion of water than is contained in Liebig's extract.

—*Brit. Med. Journ.*

PLENCKII'S SOLUTION, for cauterizing condylo-mata:

Hydrarg. chlor. corros.,
 Aluminis,
 Cerussæ,
 Camphoræ,
 Alcohol,
 Aceti vini āā partes equales.

HYPERTROPHY of the Schneiderian membrane, causing asthma, etc., is treated by spraying the following solution:

R.—Antipyrin 3j
 Cocain. mur. gr. xx
 Aquæ 3iv. M.

—Potter, *West. Reporter*.

HUZZA (*Dixie Doctor*) reports a case of hematuria in which he gave the tincture of carduus marianus, in drachm doses thrice daily for two months. The case was that of a man sixty years old. The hematuria came on suddenly, following a lascivious dream. Over a pint of blood was estimated to be passed daily. The blood gradually diminished, and finally disappeared; though it recurred after violent exertion.

BIRCH BEER.—This pleasant and wholesome summer drink may be made by the following formula, from the *Pharm. Era*:

Birch essence 1 ounce.
 Wintergreen essence ¼ "
 Sassafras essence ¼ "
 Ground cinnamon. 1 teaspoonful.
 Hops 1 teaspoonful.
 Water q. s. to 1 gallon.

Steep ten hours; add sugar or molasses to taste, and one cup of baker's yeast. It is then ready for bottling. The essences are merely strong infusions.

BEACH (*Brooklyn Med. Jour.*) mentions a case in which a series of abscesses occurred on the ear, in the temporal region, the scalp, hand, etc. Attention was finally attracted to a sinus leading to the roof of a dead tooth. It was noticed that when this sinus closed the abscesses appeared. The tooth was extracted and the abscesses ceased to appear.

Cases of general ill-health, sometimes quite serious in degree, have been known to resist every mode of treatment until decayed teeth were extracted. Sometimes the speedy return to health is remarkable. In one case, the only assignable cause for amyloid liver and kidneys was necrosis of the teeth, in a child four years of age.

CHROMIC ACID IN CYSTS.—Woakes (*Lancet*) advocates the use of chromic acid in the treatment of cysts of various sorts. In a case of cystic goitre, where the cyst had refilled after evacuation and tannic acid injection, and a sinus had formed, he

passed a probe dipped in a saturated chromic solution into the cyst cavity. This was done repeatedly for three weeks, and five weeks later the cyst-wall came away entire.

In the second case, one similar to the first, the acid was applied to the walls by means of the "acid carrier." At the end of a week adhesion of the cyst-walls was complete.

In the third case the cyst was tapped and emptied, and the acid at once applied directly to the cyst-wall by the carrier. Rapid recovery ensued.

A fourth case presented two cysts. One of them bled freely on being tapped, and the blood neutralized the acid so that a second application was required to cure.

A case of ranula is also described, in which the application of the acid brought about a rapid cure.

AGGRAVATED HEMORRHOIDS.—1. In the more aggravated forms of hemorrhoidal disease the surgeon has to do with a veritable angioma, sometimes involving the whole circumference of the anal end of the rectum.

2. The anatomical relations of this vascular tumor are such as to render possible its enucleation and ablation without special hazard to life, and without involving especially difficult operative procedures. This has been demonstrated on a large scale by Mr. Whitehead, of Manchester, England, and is corroborated by the experience of many other surgeons.

3. The method of excision and suture is inherently a more desirable operation than other methods involving strangulation of tissue, ulcerative and suppurative processes. It is not, however, so easy or so quick of performance, and demands a greater degree of technical skill and experience for its safe employment.

4. The best final results from the operation can only be obtained by avoiding injury to the sphincter muscle, or to its nerves; by the preservation of all the integument at the verge of the anus, and by the even circular dissection of the rectal mucous membrane above the growth.

The operation of excision though, in the more aggravated cases of hemorrhoidal tumors, often tedious and bloody, presents no difficulties not under the easy control of ordinary surgical skill; its results are superior to those obtainable by any other means; it is, therefore, an operation to be commended, and to be accepted as a permanent addition to the art of surgery.—Pilcher, *Brooklyn Med. Jour.*

WHEN shall we use hypnotics? In acute disease, particularly fevers, sleep is often a necessity, reducing the activity of the heart, removing more waste, and quieting the general excitability of the nervous system. In chronic disease there is frequently the same temporary need. In incurable disorders with pain and discomfort, in the restlessness of senility, hypnotics and narcotics—and used freely in the last years of life—are almost the chief justification of our service. Often in mental disease they are, for a time, all but indispensable. In some neurotic people their occasional use can hardly be avoided. In acute nervous and mental disturbance from profound shock, full and continued doses of narcotics may dispel most threatening symptoms. The individual must, of course, be taken into consideration. Many can be depended upon to use hypnotics only as directed by their physician; others can no more be trusted with them than certain persons with alcohol. Something of slight intrinsic hypnotic value may be intensified

by its mental effect, and I am sometimes deliberately asked for a prescription upon which to build a mind-cure. It is often imperative to prescribe a hypnotic, where it is best that a decided hypnotic effect should not be got. For this purpose a somewhat unpleasant drug is better than an altogether agreeable one, and the prescription which I use consists of a few minims of paraldehyde in a drachm of chloroform water. This can be repeated in the night several times, and be continued without harm.

In some conditions, even with acute maniacal symptoms, it is better to let the patient lie awake almost absolutely for two or three nights than give the amount of narcotics necessary to produce sleep.

—Folsom, *Boston Med. and Surg. Jour.*

SUMMER DRINKS IN INDIA.—The *Medical Record* of Calcutta contains some interesting remarks upon the beneficial effects to be derived from non-alcoholic drinks in the height of summer. After remarking that the very bane of European existence in India lies in the habits of eating and drinking, physiological arguments are adduced to show that highly carbonized materials are very deleterious in hot climates. The custom of the Moguls, who for luxury have had no equal in Indian history, is referred to as offering a fitting example. Their drinks consisted of milk, sweetened waters, or sherbets, prepared from subacid fruits, such as lemons, tamarinds, pomegranates, etc., flavoured with rose or Keora essences, date juice, numerous vegetable tisanes, and some infusions of glutinous seeds flavored with sugar and essential oils. These were often cooled with ice collected in pits, where it was stored during the winter months. The Oriental races, it is asserted, suffer from few of the diseases which are common to the copious meat-eating, wine-drinking Europeans. For a hot day, a light vegetable diet is recommended, with a spare quantity of meat food, and an abundance of cooling, non-alcoholic drinks. Ice is regarded as a necessity, and coffee, tea, and cocoa are to take the place of whiskey-and-soda. The use of aerated waters, prepared from pure and wholesome ingredients, and the admixture in them of the numerous fruit flavorings which abound in the tropics, are regarded with favor, as likely to offer a lucrative source of income to persons engaged in such trade, while also giving the European community a very acceptable form of summer drinks. This suggestion has already, to a certain extent, been put into practice both in this country and in America, but there is still some uneasiness as to possible evil consequences resulting from the consumption of large quantities of iced drinks when the atmospheric temperature is high. As regards light diet and extreme moderation in the use of alcohol, however, the recommendations are admirable, and might well be followed here.—*Lancet.*

OVARIAN HERNIÆ.—THEIR CAUSES, SYMPTOMS, AND TREATMENT.¹—Ovarian herniæ are amongst the most neglected, although clinically they should be included amongst the most important, of the troubles that come before us in gynecological practice. In the great majority of cases they occur downward into Douglas' space, and in such instances the left ovary is that most frequently displaced. The next in point of frequency of these herniæ are those occurring in the inguinal regions, where they are either

¹ Abstract of a paper read at the British Medical Association, Annual Meeting, Birmingham, July, 1890—Obstetric Section.

found above Poupart's ligament or, as is more commonly the case, follow the course of the canal of Nuck downward and forward, and so present in the labia, where they may be readily recognized. In the former or directly downward variety of displacement, the ovary may be discovered on vaginal examination in the recto-vaginal fossa as a small, oval-shaped, firm, elastic, and highly-sensitive tumor, bulging forward into the post-cervical *cul de sac*. In the larger number of cases ovarian herniæ, especially those in Douglas' space, result from the *vis a tergo* of abdominal or uterine tumors, or from the tension on the appendages occasioned by displacements of the uterus.

Diagnosis.—Until recently these herniæ, when inguinal, were very generally compounded with enlarged glands; when labial, with other tumors in that situation, and when downward, with pelvic abscess and hæmatocele. Or, as often happens, they are mistaken for the retroflexed fundus uteri, and the patient, suffering from an ovarian prolapse, is vainly treated for a non-existent retroflexion or retroversion of the uterus. There can now be no excuse for such errors. The sudden occurrence of the tumor, its physical character, the peculiar dull, sickening pain, and the extreme tenderness and nausea manifest on examination, are sufficient to enable a correct diagnosis to be made by any competent gynecologist.

Treatment.—Where the ovarian herniæ take place through either of the abdominal rings or downward into Douglas' space, it may, in some instances, be reduced as any other hernia similarly situated. In the majority of cases, however, such herniæ are irreducible when discovered, and must either be supported in the former case by applying a hollow truss, whilst in the latter case the prolapsed ovary must be replaced, if possible, and kept in position with a peculiar form of pessary, exhibited, specially devised by Dr. More Madden for the purpose; or, failing this, if the symptoms be urgent, the ovary must, in some cases, be removed.

The foregoing views are illustrated in the paper of which this is an abstract by the details of several instances of ovarian herniæ, exemplifying the clinical history and treatment of such cases.

—Thomas More Madden.

PLASTER SPLINTS FOR FRACTURES OF THE LEG.—

The form of splint which I am about to describe has been found to be particularly convenient for dealing with such fractures of the leg as are suitable for the "immediate" method of treatment. In the case of a fracture—say at the junction of the middle and lowest thirds of the leg—three measurements are taken: (1) The length of the limb from an inch and a half above the knee to the sole of the foot; (2) the circumference of the thigh at the level of about an inch and a half above the knee; (3) the length of the foot from the heel to the ball of the big toe. An oblong piece of old blanket is then cut out, one way an inch and a quarter longer than 1, the other way an inch and a half less than twice the measurement of 2. The limb is laid on the flannel, which is held up by its edges, supporting the leg as in a sling. Next the flannel is tacked together close to the limb, down the front of the leg, along the sole, and then along the dorsum of the foot. It is better to sew the flannel up in the order given, along the sole first and along the dorsum afterwards, because by doing so the foot will be held by the flannel in the position in which it should be—at a right angle with the axis of the limb. The leg is thus closely encased in flannel;

whilst, along the front of the leg and dorsum and sole of foot, a double free edge of flannel of greater or less extent is left beyond the seam. These free edges along the dorsum of the foot, as high as the ankle, and along the sole, are trimmed off close to the seam. There now remain two considerable wings of flannel, extending down the front of the leg as far as the ankle. Each wing, when turned back from the middle line in front, will reach to within about half an inch of the middle line behind. These wings are then trimmed from below upward, so as to shape them to the form of the leg. Two side splints, with rectangular foot-pieces, are then cut out of flannel, similar in shape to those used in a "Croft." They are cut out so that each piece, when applied to the limb, shall reach to within about a quarter of an inch of the middle lines in front and behind. Care must be taken that the anterior edge of each side-piece is quite straight; the posterior edge may be shaped so as to allow for the swelling of the calf muscles. Traction is then applied to the limb, and these side-pieces, having been thoroughly saturated with plaster-of-Paris solution, are placed over the flannel casing, one on each side of the leg. The wings of flannel are then quickly folded back, each over its respective side piece, and smoothed down. Some plaster solution is then rubbed well into the outer surface of the two flannel wings, avoiding, however, a border about a quarter of an inch wide and extending down the front of the leg, on either side of the seam. The perfect adaptation of the splint to the limbs may then be secured by applying a thin muslin roller bandage over the whole from the toes upward. After ten minutes, the muslin bandage is unrolled, and the splint is then finished. The plaster will probably be quite dry in the course of an hour or so. When the splint is completed, it will be seen that, next to the skin, there is a continuous casing of flannel; that, outside this, there is on either side, except just below the ankle, a double thickness of plaster-saturated flannel; that along the middle line behind there is a sort of hinge formed by the single thickness of plaster-free flannel of the original casing, and that each anterior edge, when the splint is opened, is formed by a fold of soft flannel. This latter is of importance, as the skin is thereby protected from uncomfortable pressure of the anterior edges of the plaster-saturated side-pieces. Thus, with these splints, there is no tendency to the formation of superficial bullæ from this cause, nor will subsequent padding with cotton-wool be found necessary.

—Foulerton, in *The Lancet*.

SPANISH TRANSLATIONS.

DR. W. F. HUTCHINSON.

From "*La Cronica Medico-Quirurgica de la Habana*."

The Commission chosen by the Society of Clinical Study, at the session of the 11th of last February, whose duty it was to look up all possible information relative to the fever known as "*fiebre de borras*" (climate or weather fever) have sent to all practitioners on the island a list of questions, answers to which will constitute a pretty complete study of the disease. It seems especially desirable that the nativity of this fever should be ascertained, as it and those of its class appear to belong to tropical islands by preference.

The Society has issued the following circular:

Among the diseases that are peculiar to the country and whose origin is still unknown is this "*fiebre de borras*," regarded by some as an entity, and by others as a modification of the yellow fever poison in natives.

This fever, of frequent occurrence at certain times of the year and in certain well determined localities, is of doubtful nativity.

For this and for other reasons, it was included in the programme of the first Cuban medical congress, where its consideration evoked a lively and interesting discussion.

Following one of the recommendations of the congress, the Clinical Society trusts that the committee to be appointed will promptly proceed to obtain all possible information on the subject, and to this end have formulated a series of questions, answers to which will probably give all necessary light upon the subject.

In order to give sufficient time to arrange these, or to gather new facts, the investigation will not close before the 30th of September, 1891, at which date all replies are to be in the hands of the Secretary.

The questions are prepared with great care, and will doubtless give excellent results.

ILLUSTRATIONS OF SOME LESS-KNOWN FORMS OF PERIPHERAL NEURITIS, ESPECIALLY ALCOHOLIC MONOPLEGIA, AND DIABETIC NEURITIS (Thomas Buzzard, M.D., F.R.C.P.)—As is now widely known, it is in the form of multiple neuritis that the toxic influence of alcohol is very prone to be exerted on the nervous system. Cases of alcoholic paralysis of this kind are not at all uncommon, and occur more frequently in women than in men, and occasionally even in females of good social position.

Let me first very briefly sketch a case of alcoholic polyneuritis as it most commonly presents itself when seen in consultation.

The patient is lying in bed, unable to stand; able to flex the thighs upon the pelvis fairly well, and possibly also to bend the knees, but with still greater difficulty. The feet are "dropped," that is, they lie flaccidly in a position of over-extension, and the patient is unable, when requested, to dorsal-flex them. The knee-jerks are absent. The muscles of the legs, especially those on the anterior surface below the knee, are probably atrophied, and are found to yield no response to induced currents of electricity. The arms are thin, and the thenar and hypothenar eminence may be found atrophied. There is more or less "wrist drop," so that the patient presents the appearance of one suffering from lead palsy. The extensor muscles in the forearm, as well as the intrinsic muscles of the hand, may not contract to faradic currents.

On the sensory side we may expect to hear of pains, which are often of lightning character, coming and going in sudden darts, like stabs of a knife, or the boring of a gimlet, and quite recalling those which are characteristic of *tabes dorsalis*. Or they may be described as gnawing, or burning, or pricking. They are usually most pronounced in the lower extremities. It is commonly found that great tenderness of the muscles is complained of when these are grasped by the hand. The patient herself will sometimes describe a sensation of aching in the muscles, and very commonly, indeed, a feeling of "numbness," "deadness," or "pins and needles," which is referred especially to the hands and feet. More or less cutaneous anaesthesia is found in the feet and legs. As a general rule the functions of the bladder are not disordered, and there is no tendency to bedsores.

There is usually a remarkable loss of memory, the patient often saying, for instance, that she has been out for a walk on that day, when she has not left her room for many weeks. There is often also a condi-

tion as though of complacent indifference and incapability of grasping the full meaning of her condition, which seems to be peculiar to a state of chronic alcoholism.

If such a case as this should give the opportunity of post-mortem examination (a comparatively rare exception) a subacute inflammatory process will be found affecting the nerve trunks, especially the radial and anterior tibial or the peroneal. The nerves will seldom show any particular change to the naked eye, but, having been hardened and submitted to section, evidence of parenchymatous degeneration is discovered in them, together with more or less interstitial neuritis.

In females affected with alcoholic neuritis I have observed now, during many years, that the catamenia are almost suppressed, and often for many months during the illness. I do not attempt an explanation of this. It seems to me a curious and interesting fact when taken in conjunction with the well-known complete, or almost complete, immunity of the functions of the bladder and rectum.

Although in the majority of cases it is the nerves of the extremities which appear to bear the brunt of the lesion, yet I have seen paralysis of the respiratory muscles and of those subserving deglutition, and in one instance almost complete paralysis of the external muscles of the eyeballs. The pneumonia which occasionally terminates the scene in cases of this kind is very likely due to lesion of the vagus.

I have given an illustration of the more usual symptoms in a case of multiple neuritis due to alcohol. It is necessary to mention exceptional conditions which are found in certain cases. There may be no pains, and but very little or indeed no disturbance of cutaneous sensibility. It seems that in some rare instances it is almost entirely the efferent fibres which suffer. There is often a very considerable amount of cedema of the feet and legs, and the hands may look puffy and sodden. Indeed, I have seen one case in which the brunt of the lesion appeared to fall mostly on the vasomotor system of nerves, and give rise to cedema. In some cases it is chiefly a tottering ataxic gait, which is noticeable. This often precedes the paralytic state, which may and often does arrive quite suddenly.

Although a drop condition of the feet is so common as to be highly characteristic of alcoholic paralysis, and should always suggest inquiries into the history, yet I have lately seen a few cases in which the symptom was not present. In these, it is true, the amount of paralysis of the lower extremities was not very great, but as the loss of power in the anterior tibial muscles is commonly an initiatory as well as a very characteristic symptom, it seems worth while to note that it may occasionally fail to occur, at least early in the case.

A case which I have seen this winter illustrates some of these exceptional conditions. A gentleman who had greatly exceeded began in September to lose power in the knees and ankles, at the same time complaining of pains in the muscles of his legs. He managed to attend office for a month, then one day, when dressed and ready to start, his legs gave way under him and he could not get up. He then began to lose power in the hands, which swelled and were numb. They remained bad for a short time only. When I saw him two months after his attack he had not been able to walk, or even to stand. His legs were swollen, he could not dorsal-flex the feet. There were no pains, nor anaesthesia, nor tenderness of muscles. The knee jerks were absent. He made a rapid

recovery, and in three months was almost well. When I last saw him both knee jerks had returned.

The lower extremities as a rule are more severely affected than the upper. It occasionally happens, however, that when the patient comes under observation recovery has taken place in all except one limb, and then there is a chance, unless care be taken, of a mistake in the diagnosis of the case. A lady was seen by me, in consultation, in April, 1888. She was suffering from loss of power in the left hand. She had no complaint to make of her legs, or of the right arm. There was wasting of the thenar and hypothenar muscles of the left hand, with loss of faradic reaction. The skin was red and polished looking. The catamenia had been absent for some months.

There was exquisite sensitiveness to touch at the tips of the fingers and in the palm, and if the wrist-joint were moved it caused her excruciating pain. The hand and arm presented the helpless look of a fractured limb. The fingers were white and puffy, the nails overgrown, because she could not bear to have them cut. Great tenderness was experienced on pressing the median nerve at the wrist. The right thumb, and two fingers were sensitive at the tip, and the hand was weak; it had been still more helpless than when I saw it.

In January the patient had begun to feel as if she had "rheumatism," and her fingers became oversensitive. At that time she was very weak.

In February her knees would give way, so that she fell more than once on her wrists. At that time she was walking with the help of a stick or some one's arm, on account of "rheumatism" in her knees. She dragged her feet. She was treated with induced electrical currents, and the hands gradually improved.

On May 3d, after the hand had been placed in hot water for the purpose of faradism, it became purplish-red and swollen. I have often noticed this to happen in cases of neuritis. The cuticle will often scale off.

On May 26th, adhesions in the wrist and finger-joints were broken down under chloroform. Under faradism, massage, and passive movements she slowly improved, and I heard subsequently that the arms had got quite well. It should be said that there was a distinct history of excessive drinking in this case.

In the following case neuritis (presumably from alcohol) was confined from the first to the district of a single muscle.

A gentleman, aged twenty-nine, was sent to me by his medical attendant with paralysis of the index, middle, and, to a less extent, of the ring finger of the right hand, which had been observed for three weeks. The patient was a paroxysmal drinker, and had just come out of a debauch of several weeks. The hand presented just the appearance of an early stage of wrist-drop from lead. There was no blue line, and no history of exposure to that metal. The faradic excitability of the extensor communis of the right arm was lessened and ASZ > KSZ. The hand felt numb. There had been no pain in the arm. There was no sign of lesion in the other arm, or in the lower extremities. The knee-jerks were present and equal. Under treatment, chiefly by abstinence and with slight application of electric currents, he quite recovered in six or seven weeks.

In another example the lesion was confined to the brachial plexus of one side.

A gentleman, aged twenty-two, came to me from a medical man in the country. His right arm hung helpless. It was exquisitely tender to the touch, full of pain, and presented a sodden appearance. Pains had begun in the arm some weeks previously. For

some two or three years, I was informed, his habits had been most intemperate, and he had been on the verge of *delirium tremens* when the attack of brachial neuritis began. At first its occurrence appeared to check the development of the symptoms of delirium, but when he returned home he was in a half maniacal condition, which prevented an exact examination of the arm being made. He had been then treated with salicylates, bromides, iodides, arsenic, and quinine. Under antipyrin, grains 25, and extract of Indian hemp, grain $\frac{1}{4}$, three times a day, he soon began to have less pain and tenderness. In a fortnight he looked very much better, and was free from pain. I heard later that he had quite recovered.

A female patient was brought to me on account of loss of power in the right hand and greatly impaired vision. I found the right grasp diminished in power. The two middle fingers were especially weak, and tended to drop. There was no cutaneous anæsthesia. She had suffered from what she called "rheumatism"—sharp shooting pains in the feet and across the instep for years, but had had no pain in the arms. In the course of the last six years she had on three occasions an epileptic fit. The difficulty of vision was peculiar. At first it strongly suggested hemiopia. Looking at the word "holding," she could read "hold" only. After a pause and apparently readjusting her gaze, she saw the remainder of the word. Facing me, she could see my right eye clearly, my left but very indistinctly. Yet, on holding up my fingers, and testing the field of vision, I could discern no impairment of the extent to which she could see to her right and left. It appeared, therefore, that she had a scotoma just to the right of the center of the visual field. Her tongue appeared slightly inclined to her right. This last symptom, coupled with the suggestion of hemiopia, paresis of the right arm, and the history of fits, might easily lead to a diagnosis of intracranial disease. But close investigation did not confirm this.

The extensor communis muscle of the right arm showed distinct lowering of excitability to both faradism and galvanism, but especially to the latter. This could not result from an intracranial lesion. It pointed to an affection of the "spinal" nervous system, and was most probably due to peripheral neuritis. (The word "spinal" connotes, of course, the spinal nerves as well as the cord). There was a history of alcoholism. I was disposed to refer the scotoma to periaxial neuritis of the optic nerve. The patient recovered completely in a few weeks.

I saw quite recently in consultation a lady, aged sixty-four, who a fortnight previously had entirely lost the use of the right arm. Investigation of the cause of this monoplegia excluded a traumatic origin. The tendon reflexes in the other arm and in the legs were good. In the right arm they were absent. There was total inability to move any muscle of the right upper extremity, including the shoulder, together with anæsthesia of the hand, which decreased shortly above the wrist. Pain of excruciating character, especially bad at night, was described as affecting the right arm. It was as though the "limb were being torn out of its socket on a rack." I had not an opportunity of testing the faradic excitability of the muscles, which were very flaccid, but the other symptoms are sufficient to show that the lesion was probably a neuritis of the brachial plexus. The patient was described as not having been sober for a year past.

These examples, I have thought, would prove interesting and valuable, as tending to show what has

not yet, so far as I know, been advanced respecting the influence of alcohol, that its effects may appear, not only in the more common form of a generalized paralysis of the extremities, but in lesion of a peculiarly localized character. If I am right in the view that these are examples of localised neuritis due to alcohol, it is evident that we shall have in future to bear this possibility in mind, when we meet with neuritis of single nerves or plexuses, of the cause of which we do not find a ready explanation.

Let us turn now to peripheral neuritis arising from other causes than the influence of alcohol. A week or two after I had published a work on "Paralysis from Peripheral Neuritis," the following case came under my observation at the hospital. It is one of multiple neuritis, occurring in a patient affected with diabetes melitus:

J. K., aged fifty-five, carpenter, applied to the National Hospital for the Paralyzed and the Epileptic, on June 30th, 1886, suffering from loss of power in the lower extremities, which he ascribed to working in the wet. He had been quite well until the previous September, when, after working daily for several weeks out of doors in the cold and wet, he began to get pain and tenderness in the front of the right thigh, which extended presently down the leg to the foot. The pain was very severe, and there was so much weakness that his knee often gave way and let him down. A month after the right the left leg was similarly attacked, and in three months from the first symptoms he could not walk at all. About this time he noticed also numbness and "pins and needles" in both legs, especially in the soles of the feet, and the pains were severe and continuous. The symptoms continued till the end of February, when the pains became less severe, and he became able to walk upon crutches. The improvement in his lower limbs continued, but towards the end of May he began to have a little tingling and slight numbness in the tips of his fingers. At no time was there any difficulty with his bladder, but soon after the commencement of his illness he was troubled with great thirst and noticed that he passed much urine, and, moreover, wasted in flesh a great deal.

On examination, the legs were found thin; they could be flexed readily upon the thighs, but extension was imperfectly performed. There was no power of dorsal-flexing the feet upon the legs. There was tenderness on pressure in the soles of both feet, and he complained of tingling and numbness from the feet up to the knees—more in the feet, ankles, and front of the legs than in the calves. There was much loss of cutaneous sensibility in the feet and lower part of the legs. The knee-jerks were absent. There was no response to the strongest induced currents in the anterior tibial group of muscles, and this painful application could be borne without inconvenience in that situation, whilst lower down it was only felt as pressure. It was remarkable, I may note by the way, that some immediate return of voluntary power in dorsal-flexing the feet followed this application, although the electric current itself caused no muscular contraction. Examinations of the urine showed that it contained a large quantity of sugar.

The man was admitted as an in-patient a fortnight afterwards. Examination then showed the plantar reflex fair on the left, but hardly to be obtained on the right sole; the gluteal fair on the left, not well marked on the right; the cremasteric also better on the left than the right side. The abdominal and epigastric reflexes were present on each side. There was a ready and normal response to induced currents

in the muscles of the hands and arms, but still no reaction in the anterior tibial group; the calf muscles responded, though not perfectly, and the muscles of the thighs also responded, to the induced current. A strong galvanic current was required to cause contractions in the anterior tibial muscles, but the response took place on the right side to twenty-eight cells with the positive-pole closure, as against thirty-four cells with the negative-pole closure. On the left side, too, the positive-pole closure contraction was more marked than the negative. On the other hand, in the right gastrocnemius only twenty-two cells were required with the negative pole, as against thirty-two with the positive. A fortnight later a very strong faradic current produced contractions in the anterior tibial group, but a much weaker current was sufficient to act upon the peroneal muscles.

When he left the hospital, at the end of August, K S Z > A S Z in the anterior tibial group. There was still great loss of cutaneous sensibility in front of the legs.

Examination of the urine showed that it was passed in large quantities and of high specific gravity, as the following figures will indicate:

July 25th,	74 ounces in the 24 hours,	specific gravity	1045,
" 26th,	79 " " " " " "	"	1043,
" 27th,	94 " " " " " "	"	1042,
" 28th,	84 " " " " " "	"	1042.

The urine contained sugar in abundance.

The patient was shown to the Harveian Society in November, 1886. After remaining as an out-patient during the winter and spring, he was again admitted into hospital in June, 1887, still complaining of great loss of power in both lower limbs, the movements of which were feeble. There was drooping of the toes of the left foot. Both legs were slightly wasted. The knee jerks and plantar reflexes were absent. There was continuous pain in both legs and feet, and some but less numbness than formerly. Sensation to touch was diminished below the knees. In the same region there was slight tenderness on pressure.

On the outer side of the right foot, just below the external malleolus, was a deep ulcer, the skin around it and on the outer side of the foot generally being much congested. This had begun as a small swelling, which had gradually increased in size, burst, and discharged a small amount of pus.

On the sole of the left foot, just below the metatarsophalangeal joint of the great toe, was a cicatrix due to a similar condition, which had arisen in connection with a corn in that situation, in the February preceding.

Tactile sensation was diminished in both hands, and the patient complained of slight pain in both hands and the left forearm. There was pain in all the fingers of the left hand, and in the little and ring finger of the right hand. There was loss of power in both hands, especially in the left, and the power of flexing the elbow was much feebler on the left than on the right side. There was wasting of the thenar and hypothenar eminences of both hands, and of the interossei (especially of the first) in both hands; also slight wasting of the left forearm.

From the middle to the end of July the diet consisted in toast, green vegetables, meat, eggs; no potatoes, sweets, beer, rice, or other starchy food. The quantity of urine averaged fifty-seven ounces per diem, and by the fermentation process the amount of sugar was estimated at an average of twenty-five grains per ounce of urine.

From the end of July to the middle of August soft bread was substituted for toast, with the result that the urine averaged eighty-three ounces per diem, with thirty-five grains of sugar per ounce of urine.

From the middle of August until the middle of October gluten bread replaced the soft bread previously taken. The quantity of urine fell to an average of fifty-four ounces per diem, with only sixteen grains of sugar per ounce of urine. *Pari passu* with this decrease of glycosuria, the patient gained weight, the ulcer healed, and when he left the hospital, on November 3d, his condition generally was described as much improved. I have since lost sight of him.

When I first saw this man in the out-patient room, I recognized his case as one of a class to which (in order to distinguish them from those resulting from disease of the cord) I have suggested the name of neuritic paraplegia. The basis or ultimate cause of the neuritis did not at once appear evident, as there was no alcoholic history. It was in an endeavor to discover this, and influenced by the man's description of thirst and wasting, that I examined the urine for sugar. Just at that time the occasional dependence of peripheral neuritis upon diabetes had been announced abroad, and I was much interested in meeting with a case in point. The occurrence of perforating ulcers in this case is very interesting. From this, together with the absence of knee-jerks, and the pains, the case might readily, but for the discovery of the sugar and the existence of muscular atrophy, have been set down at first sight to one of *tabes dorsalis*, with which it had much in common.

In another case, to which I need only very briefly refer, symptoms of pains and weakness of the extremities, with absence of knee-jerks, had been ascribed to *tabes*. In that instance I discovered a large quantity of sugar, and under a partially restricted dietary there was remarkable improvement in the symptoms and the knee-jerks returned. The symptoms in this case had never attained the severity observed in the preceding one. There had been no considerable loss of power, and the muscles showed no atrophy. In another, seen recently in consultation, a diabetic patient suffered from excruciating pain in the lower extremities with loss of knee-jerks. In the following example the paralysis and atrophy were strongly pronounced, and much more localized than in the first example.

A gentleman, aged sixty, was sent to me in October, 1887, with the left arm hanging helpless and its muscles wasted. He told me that he was suffering from diabetes and that he had much gout. Sugar had been discovered six years, and he passed about fifteen grains to an ounce. Albumen had been observed eighteen months, and it measured about a twentieth. The son of a gouty father, he had always drunk beer and port wine, and began to show gout at forty years of age. His appearance was that of a man who had lived freely. His heart-sounds were feeble, and he had an aortic systolic *bruit*. He passed in the twenty-four hours about six pints of urine, usually of a specific gravity of one thousand and twenty-five. This was on a partially restricted dietary. On ordinary diet it would rise to one thousand and forty or more. He was taking six ounces of whiskey daily, besides some wine. His weight, which had been formerly eighteen stones ten pounds, was then about fourteen stones.

Examination showed wasting of all the muscles of the left-shoulder and arm, except the flexors of the wrist and fingers. In these only reaction to the induced current persisted, although it was diminished.

In the wasted muscles there was none. There was much oedema of the hand, and the sensibility of the skin of the arm was much diminished. Only the left shoulder and arm appeared to be affected. The atrophy had been preceded by great gnawing pain about the shoulder, with shooting down the arm, which had begun, according to the patient's account, about a month previously. There were no knee-jerks.

When I saw this patient five months later, he could lift the shoulder and elbow, which he had not been able to do when he was first examined, but electrically there was no improvement. There was no reaction to the strongest induced current in the muscles of the shoulder, arm, and extensor side of the forearm; the flexors of the wrist and fingers required also a strong current. The skin of the shoulder of the right side was but little sensitive to induced currents, and he had been complaining of pain in that situation.

In June, 1889, I again saw this patient in consultation at his own house. He was then suffering from congestion of the base of the left lung. Both his arms were now very incapable.

I recently saw a female whose gait was shambling, and who could scarcely use her hands. There was a history of pains in the feet, gradually extending up the legs, of a sharp character, from which she had suffered for three years. She had no knee-jerks. Pupils reacted to light. There was anaesthesia below the knees. She could dorsal-flex the feet, but the legs were very weak. Her memory was good. There was no appearance or history of alcoholism. I suggested to her medical attendant to examine the urine for sugar. He found it of specific gravity one thousand and forty-two, and highly charged with sugar.

It appears from a case recently published by Dr. Althaus that the neuritis in diabetes may be limited to a single nerve.—*British Med. Journal*.

TUBERCULOUS CATTLE.—The following official statistics, relating to the public slaughter-house of Augsburg, may be interesting: During 1889, of 23,592 calves slaughtered, only one (an animal three weeks old) was found to be tuberculous. Of 13,679 head of older cattle, 612, or 4.4 per cent., were tuberculous. Of 8,537 oxen, 167, or 1.94 per cent. were tuberculous; while of 5,008 cows, 445, or 8.88 per cent., were affected with that disease. In four cases, or almost one per cent. of the cows, the udder was the seat of tuberculous. In 67 of the 612 cases, in which disease was discovered, the flesh was declared unfit for food on account of generalized tuberculosis, and destroyed.

DR. JOHN RIDLON, clinical teacher at the *Vanderbilt clinique* in connection with the College of Physicians and Surgeons, New York, lately gave a lecture and demonstration on the subject of Potts's spinal curies, at the Royal Southern Hospital, Liverpool. The apparatus he employs for fixing the spine is a modification of Taylor's, differing from it in this, that the pressure is made over the transverse processes of the vertebrae, and not, as in Taylor's apparatus, over the ribs. The basis of support is formed by a steel band, passing behind the sacrum and between the iliac crests and the great trochanter, resting on the latter. From this two upright steel bands pass, one on each side of the line of vertebral spines, and terminate in a strap that passes round the shoulder and axilla. Above and below the point of deformity there is a transverse bar attached, having at either end a strap which passes forward and is secured to an

apron which covers the front of the patient. On each side of the deformity pressure is made along the line of transverse processes by cork pads attached to the upright bars. The advantages claimed for this apparatus are that the deformity is controlled to the greatest possible extent by the pressure being made on the transverse processes, and that there is no possibility of the angle slipping to one side. When the disease is in the upper dorsal region, a support for the chin is added; and a frontal band is employed, when it is in the cervical region. With regard to diagnosis, Dr. Ridlon regards rigidity of the spine as the most constant and unmistakable symptom of Pott's disease, being present from its earliest onset, and only disappearing when the cure is complete. Local pain and tenderness at the point of disease he regards as never occurring in uncomplicated caries of the bodies of the vertebræ, and if found in any case suggests that the condition is not Pott's disease at all. The lecture was listened to with much interest by several practitioners in the neighborhood, and a hearty vote of thanks was accorded to Dr. Ridlon.

—*Brit. Med. Jour.*

ON THE STRUMOUS DISEASES OF CHILDHOOD AND THEIR RELATION TO TUBERCLE.¹—During a long experience as physician to the first hospital for diseases of children established in Ireland, with which I have been connected since its foundation, in 1872, the increasing prevalence of the strumous and tubercular diseases of childhood have been constantly brought under my clinical observation. The intimate connection and relation between these conditions was pointed out nearly a quarter of a century ago in my work on "Change of Climate," and was discussed in a paper of mine in the Transactions of the International Medical Congress of 1871, as well as last year in my article on *Puberty*, in Dr. Keating's recently-published American "Cyclopædia of Diseases of Children." I refer to these dates merely as evidence that the views embodied in the following brief recapitulation were not hastily formed nor without some experience of the subject referred to. The increasing proportion of strumous and tubercular affections which have been observed of late years in my wards in the Children's Hospital, is probably largely ascribable to the faulty dietetic and hygienic management of early childhood, and to the general substitution of artificial, and in many instances very unsuitable, preserved or tinned preparations, for that natural or fresh milk which, in my opinion, is essential for the healthy nutrition of children. As I formerly pointed out, and the observation is now more applicable than was the case ten years ago, the acute forms of tuberculosis common during childhood resemble the infective diseases in their origin from a specific germ, whether generated in the body or introduced from without. The latter is probably the case in the tubercular diseases prevalent amongst the children of the poor, in whose dietary various forms of preserved milk foods now enter largely, as it seems difficult to conceive any certain guarantee that the cows furnishing the supply may not, in some cases, suffer from *perlsucht*, this disease being very prevalent and not materially affecting the quantity of milk. More recently Prof. Bollinger has shown that milk may prove infectious whether taken from cows suffering from general or local tuberculosis. In

his experiments only a few drops of undiluted milk from a tuberculous cow proved sufficient to produce miliary tuberculosis in animals. Be the pathogenesis of tuberculosis what it may, however, can, I think, be no question as to the fact that it is most frequently developed in patients who bear in their general constitutional condition, and more especially in their glandular system, the obvious imprint of the strumous diathesis. Nor is it to be wondered at that in children thus constitutionally enfeebled the struggle for existence between the invading specific micro-organisms and the blood corpuscles, or leucocytes, should almost invariably so speedily terminate in the fatal victory of the prolific bacilli of tubercle.

—Thomas More Madden.

Medical News and Miscellany.

DR. SHARP sailed for Boston on Tuesday.

PROF. J. M. ANDERS has been inspecting Sea Isle.

PROF. DUHRING has honored Atlantic City with a brief visit.

WOMEN are admitted to the classes of all Italian universities.

THE reports from Spain show that the cholera is raging there.

"LA GRIPPE" is said to be responsible for a large number of suicides.

PHILADELPHIA has 1095 arc lights, and 892 miles of underground electric wires.

DR. G. HOWARD BECK has been appointed Police Surgeon for the Fifteenth Ward.

THE Seaside Home at Cape May Point has begun its beneficent work for the summer.

A DETROIT electric-light company insures the lives of its employes for five thousand dollars each.

THE dragon-flies are said to have completely cleared Light-house Point of mosquitoes. A pointer for Cape May Point.

SWEET MILK was so scarce during the late hot spell in New York that milkmen got double the price usually charged.

"DR." BRADLEY, the diploma vender, has been indicted. He has destroyed his plates and surrendered diplomas and seals.

DR. GEORGE I. McLEOD, of Thirty-ninth and Chestnut streets, sailed on Wednesday, July 9th, by the *Bothnia*, for Europe.

A RABID sea-lion took possession of a Santa Fé train and held it until death. The carcass was taken to Armour's packing house.

DR. ILIFF, of Philadelphia, showed his keen appreciation of the comforts of life by taking up his abode at the Mansion, Atlantic City.

DR. JUDSON DALAND spent last Saturday and Sunday at Cape May. The doctor is looking well and hearty; he is quite fond of swimming.

THE Lippincott homestead, at Palmyra, N. J., has been opened as a sanitarium for sick children, under the supervision of Dr. Francis Janney.

¹ Abstract of a paper read at the British Medical Association Annual Meeting, Birmingham July, 1890—Obstetric Section.

MR. TABBOT, of Boston, has opened a summer camp for boys, on the borders of Lake Asquam. Lucky boys! Wish we were one of you!

THOSE old friends, the cholera scare and the man who "points with pride" in the political platforms, have commenced their summer campaigns.

DRS. D. C. POSEY AND ROBINSON, of the Presbyterian Hospital, have just returned from Elberon Springs, where they had a pleasant holiday.

THE ptomaine produced by the bacillus of mice septicæmia, is called methylquanidine. One-thirty-second of a grain is sufficient to kill a rabbit.

THE account of the remarkable birth of quadruplets in the *Dietetic Gazette* seems to have been copied by every small medical journal in the United States.

DRS. ALLIS and Posey are said by the *Times* to have performed the rare and difficult operation of herniotomy at the Presbyterian Hospital last Saturday.

DIET during summer complaint of infants should be determined entirely by the condition of the bowels, and not by theoretical ideas as to Nature's food.

BROOKLYN's death rate is on the increase. There were 552 deaths during the week ending July 5, representing an annual death rate of over 33 in every 1,000.

DR. E. M. WILLIARD, one of the visiting staff of the Presbyterian Hospital, left for Europe on Wednesday, July 9th, and will be away during the summer months.

A PIN was lately removed from the ear of a woman at the University Hospital. She had used it to stop itching, when it slipped into her ear and penetrated the drum-head.

THE summer home for the deaconesses of the German Hospital at Cape May Point is occupied by the Sisters and Dr. Marie L. Baüer. The mosquitoes take kindly to Teutonic blood.

THE State Factory Inspectors, in four and a half months, made one thousand one hundred and twenty-seven inspections and only found forty-two children under twelve years of age.

A MICHIGAN druggist sold alcohol to a fifteen-year-old boy, who, with his little brother, got drunk on it, and both were killed on the railroad. The parents are suing the druggist for damages.

THE physicians of New Orleans, who started a training-school for nurses, having failed, the ladies took it up, and have carried it through the first year with a fair prospect of success.

THERE is a Flour, Fruit and Ice Mission which meets weekly at Horticultural Hall for the purpose of distributing contributions of the above to the different hospitals of Philadelphia.

SEVERAL children were poisoned in Bridgeport, Pa., last week, by eating blackberries from bushes on which Paris green had been sprinkled, to poison insects that were eating the leaves.

POSTMASTER-GENERAL WANAMAKER, last week, attended the exercises at a sea-side home for the sick recently established at Ocean City by the Bethany Sunday-school, of Philadelphia, of which he is superintendent.

THE Children's Country Week Association, last week, sent three hundred and twenty-six children to points along the main line of the Pennsylvania Railroad and Baltimore Central Division.

HENRY M. STANLEY will lecture in the Metropolitan Opera House, New York, for the benefit of the Fresh Air and Benevolent Home of Summit, N. J., shortly after his arrival in this country.

MRS. ISABELLA BIRD BISHOP, the famous traveler, has obtained from the Maharajah of Kashmir the grant of a piece of land on which to build a hospital of sixty beds and a dispensary for women.

A CAT which had been recently bitten by a supposed mad dog, in Beverly, Massachusetts, attacked and bit two little children of J. C. Edwards, and tore the hands of Charles Grenough, who killed the animal. The wounds were cauterized.

THE next meeting of the Fifth District Branch of the New York State Medical Association will be the eighth special meeting, to be held in Kingston, Ulster county, New York, on Tuesday, July 22, 1890. A large attendance is desired.

SOME months ago we mentioned the advantages of working women donning masculine garments. A Berks county farmer's wife arrayed herself in her husband's clothes and mounted the reaper, but the harvesters refused to work with her.

THE *Chicago Medical Times* states that the Bennett (Eclectic) Medical College parted with their late Dean because he sold a diploma of the college for \$100 to a man who had only attended one course of lectures, applied for graduation and was refused.

ACTING on the report of its experts in regard to the steam heating nuisance, the Board of Health issued orders to the New York Steam Heating Company to shut off its steam and discontinue the use of its mains at four different points in the city.

THE German joke is calculated to give one a pain in the stomach. The *Fliegende Blätter* says a physician is noted for his generosity because he attends people without asking a fee; he settles with the heirs. The key to the combination will be over by the next steamer.

THE *Medical Press* quotes a medico-legal case which the railway doctor pronounced an attempt at imposition; while two distinguished surgeons held that the spinal injury was so serious that it would require from one to two years of the most skilful treatment to cure.

THE party of ladies and gentlemen who tramped to Atlantic City took a pleasant and profitable method of spending their vacation. Pedestrian tours open up a succession of pleasant surprises to those who have only seen a section by glimpses from a flying express train.

MR. THEODORE WARNE has left THE TIMES AND REGISTER, to accept a position at Peter Wright & Sons, and his place, as manager of the subscription department, has been filled by Mr. George Wharton McMullin, who retires from the advertising department, where his place has been filled by the energetic Dr. Giles. Mr. McMullin has been connected with the journal ever since the first issue of the old *Medical Register*, with the exception of a few months during the summer of 1887, when he returned to his labors as the successor of Dr. William C. Wile.

DR. M. J. ROSEMAN, of the resident staff of the Almshouse, who received a commission as surgeon in the United States Marine Corps, and Dr. Frank Keefer, who passed at the head of forty-eight applicants as surgeon in the United States Army, are waiting to be ordered to report for duty.

A MEDICAL BISHOP.—The Right Reverend Henry Callaway, Bishop of St. John's, Caffraria, South Africa, who died March 26, was a regularly qualified practitioner of medicine and surgery, his M.D. degree having been granted by the King's College, Aberdeen, in 1853. He was in his seventy-third year at the time of his decease.

DR. LANPHEAR may see the truth of the old adage that a slander goes much farther than its denial, in the re-publication of its circulation item by the *Weekly Medical Review*. Dr. Lanphear published a statement concerning THE TIMES AND REGISTER which was untrue. He should at least give equal prominence to our denial.

THE St. Louis College of Physicians and Surgeons is erecting a new college building; to be completed by October 10. It is a handsome structure, 75x119, with three large lecture-rooms and all other needed appurtenances.

The Beaumont Medical College is also being rapidly pushed to completion.

DURING JUNE, 38 new cases were admitted to the Germantown Hospital; 30 cases were discharged, and 1 died. Remaining in the Hospital June 30, 32. In the general dispensary 294 cases were treated. In the eye department there were 107 cases; in the nose, 16; ear, 21; and throat, 24 cases. During the month there were 19 ambulance calls.

At the regular meeting of the Managers of the Pennsylvania Society for the Prevention of Cruelty to Animals, held on Tuesday, of last week, the operations of the month showed that 920 cases of abuse and cruelty had been attended to, resulting in 23 arrests, 395 sore and lame horses and mules were turned out of harness, and 263 cases remedied without prosecution.

AMONG the mountain resorts which are becoming quite popular this summer, are the Hotel Kaaterskill, Paxinosa Inn, Lake Hopatcong, and Swiftwater; the latter in Monroe county. Wernersville has several good hotels in its vicinity. No one who has not visited it would imagine that such beautiful mountain scenery is to be found within two or three hours' ride from Philadelphia.

IN his report upon the Convention for the revision of the U. S. Pharmacopœia of 1890, Dr. Benjamin graphically demonstrates the business capacity of the preceding committees. The work was given out to be published by a New York house, which realized profits of somewhere between \$20,000 and \$54,000, while the distinguished but stupid men who did the work received nothing.

"A SECOND SARAH."—A woman living in the mountains near Fort Smith, Ark., named Sarah Gates, aged seventy-one years, proved herself almost a second Sarah by giving birth to a well-formed and healthy male child. Two years ago, Mrs. Gates, then a widow, married William Gates, a young hired hand on her farm. The case is exciting a good deal of interest among physicians.—*Med. World*.

THE TIMES AND REGISTER stands out, solitary and alone, as the one and only medical journal that said a good word for Billing's census circular. If this doesn't make us solid for the next \$30,000 investigating committee, then gratitude has ceased to inhabit the human heart.

THE remark that rabies flourishes in proportion to the development of Pasteur institutes, reminds us of a similar objection made to vaccination. It was said that the number of vaccinations reported by the Board of Health was greatest during the times when small-pox was prevalent.

MINNEAPOLIS is wrongly supposed to be a wide-awake place; but an esteemed contemporary tells of one of her citizens who slept for three weeks at a stretch; only waking for food. As the case seems to have excited no comment in the Minneapolis journals, we suppose such somnolence is the usual state of that city. St. Paul papers please copy.

THE Misses Stewart, of Cincinnati, three Scotch ladies, have for two years kept a temperance restaurant in the Chamber of Commerce building. It was predicted that they could never make it pay if they refused to furnish beer; but the plucky Scotchwomen stuck to their principles, and their cooking is so good that they clear from \$8,000 to \$10,000 annually, besides paying a rent of \$3,000 a year for their handsome premises.

The *Pulte Quarterly* takes a shy at the question of the eligibility of homeopaths for the Army and Navy Medical Corps, and quotes the army regulations to the effect that candidates must be graduates of a regular medical college. This is correct as far as concerns the army; but in the navy there is no rule requiring the applicant to be a graduate of any college. In fact, we know of at least one who entered the service before he graduated.

THE *St. Louis Medical and Surgical Journal* devotes an editorial to the alleged discovery of a fresh-water sponge as the microbic cause of eczema rubrum. The editor states that Dr. Wilkins sent him a slide upon which was a specimen obtained from the patient by his own hands; but which the editor declares contained, not sponge-spicules, but human spermatozoa. This is, to say the least, calculated to throw some doubt upon Dr. Wilkins' claims.

THE glorious Fourth supplied the Boston City Hospital with twenty-one injuries from explosions; the giant cracker figuring largely in the etiology. The *Boston Medical and Surgical Journal* says that a feature of these injuries is the splitting open of the base of the thumb, and production of a compound dislocation at the joint of the first metacarpal and the trapezium, so that the thumb and its metacarpal are connected with the hand only by the soft parts.

ONE hundred and fifty men, women and children, at a church picnic at Solon, near Iowa City, were prostrated last Sunday with serious symptoms of poisoning. In a few moments the people had fallen from the tables upon the ground writhing in pain. Physicians were summoned and administered remedies, in a few hours the patients recovered, no case being fatal. The use of water from a well long abandoned is given as the cause of the sickness.

THERE have been several cases of small-pox on the ship "Saratoga," landing at Mauritius, and some uneasiness is expressed. The local health board,

owing to contagious disease on the "Saratoga," and the possibility of the introduction of cholera from Europe, will establish a local quarantine station in Longue Isle Bay, where all suspected incoming ships will be thoroughly fumigated, and detained until the health officer is satisfied no trace of disease exists.

T. DE WITT TALMAGE says that no one can do with less than six or seven hours sleep per day; and warns his audience against the fairy tales of great men who slept but three or four hours a night. Americans need more sleep than they get, and the lack of it is one of the elements which render insanity and nervous diseases frequent. No man or woman ever yet kept healthy in body and mind for a number of years with less than seven hours sleep.

THE following report is made of the work at the Woman's Hospital for June: Patients treated in the house, 116; discharged, 47; new patients treated in clinic, 596; gynecological, 177; medical, 113; surgical, 70; eye, 63; ear, throat and nose, 74; dental, 14; electrical, 85; visits to clinic, 2,615; new out-patients, 69; visits to out-patients, 310; operations in hospital, 55; births in hospital, 12; in out practice, 5; prescriptions compounded, 2,867; nurses in service at hospital, 44.

DURING May, New Orleans reported 600 deaths. The principal causes were:

Consumption	63
Cholera infantum	49
Diarrhoea	39
Pneumonia	32
Senile debility	26
Cancer	20
Bright's disease	16
Meningitis	13
Infantile debility	12
Bronchitis	11

HERE'S RICHNESS.—Adametz has isolated nineteen varieties of microbes in a single variety of cheese in the fresh condition. In each gramme he counted from 90,000 to 140,000 bacteria, which in seventy days had multiplied to 800,000. In the soft varieties the number is still greater: 1,200,000 in a gramme of cheese thirty-four days old, and 2,000,000 in another forty-five days old. These figures refer to the interior; in the rind, three to five millions of organisms were counted per gramme.—*Lyon Medical*.

THE Alvarenga prize of the College of Physicians of Philadelphia, consisting of \$180—one year's income from the amount of the bequest of the late Dr. Pedro Francisco de Costa Alvarenga, of Lisbon, Portugal—has been awarded to Dr. R. W. Phillip, of the Victoria Dispensary, Edinburgh, for consumption and disease of the chest, for his essay on pulmonary tuberculosis. This is the first year that the prize has been awarded, and each year hereafter it will be awarded for the best memoir or unpublished work in any branch of medicine.

In the monthly report of the Medical Superintendent of the Cherokee (Indian Territory) High Schools that on the female seminary (the pride of the Cherokee Nation) closes with this remark: "We have beautiful, roomy grounds at the seminary, and my advice to the young women would be to play baseball, run and swing, get more of the good fresh air and sunshine, so as to develop the lungs. When a chief of the Cherokees was asked why the Cherokees are so much in advance of the other tribes, he replied: 'Because we have taken care to educate the women as well as the men.'"

THE Seventeenth Annual Session of the Mississippi Valley Medical Association will be held at Louisville, Kentucky, October 8, 9, and 10, 1890. The medical profession is respectfully invited to attend. The meeting promises to be of great social and scientific interest, as the profession of Louisville are doing their utmost to make it a success. Ladies accompanying physicians will be made especially welcome. Gentlemen wishing to read papers will please send titles as soon as possible to the Secretary, Dr. E. S. McKee, 57 W. Seventh street, Cincinnati. The American Rhinological Association will also meet in Louisville, October 6, 7, and 8, 1890.

THE Eighteenth Annual Meeting of the American Public Health Association will be held at Charleston, S. C., December 16, 17, 18, 19, 1890.

The Executive Committee have selected the following topics for consideration at said meeting:

1. Sanitary Construction in House Architecture; (a) Heating, (b) Lighting, (c) Draining, (d) Ventilation.
2. Sewage Disposal.
3. Maritime Sanitation at Ports of Arrival.
4. The Prevention and Restriction of Tuberculosis.
5. Isolation Hospitals for Infectious and Contagious Diseases.
6. Establishments in Favorable Climates for Persons having Tuberculous Predispositions; (a) Schools for Children and Adolescents, (b) Sanatoria, (c) Permanent Residence.
7. Miscellaneous Sanitary and Hygienic Subjects.

PATENTS issued during the past week. Reported by Charles G. Gooch, counsellor in patent cases.

Obtaining acetic acid and methyl alcohol	F. C. Alkier	Wieselburg, on the Erlauf, Germany.
Rosinduline sulpho acid	C. Schraube	Ludwigshafen, o. t. Rhine, Germany.
Remedial cosmetic	C. J. Wilkins	Denver, Colo.
Fountain syringe	C. A. Tatum	New York, N. Y.
Making thio-oxydiphenylamine	M. Lange	Amersfoort, Netherlands.

TRADE MARKS.

Blood purifiers, tonics, and like remedies	W. S. Burnham	Cleveland, O.
Medicinal bark known as Cascara Sagrada	S. L. Jones & Co.	San Francisco, Cal.
Liniments capable of use externally and internally	W. M. Bagley & R. W. Telford	Greenville, Miss.
Various medicinal remedies as specified	F. Eberlein	Chicago, Ill.
Natural mineral water	Coronado Water Co.	Coronado, Cal.
Remedy for diseases of the liver, kidneys, and stomach	J. W. Jones	Americus, Ga.
Remedy for hog and chicken cholera	G. Riley	Fayetteville, Ark.
Suppositories for curing female diseases and piles	D. M. Coonley	South Bend, Ind.
Bronchial syrup	G. S. Hull	Lowell, Mass.

LABEL.

"Emley's Liniment"	C. A. Emley	Wrightstown, N. J.
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GERMAN MEDICAL DIPLOMAS.—In the numerous small free faculties of Germany, the medical students pass their examinations in the following manner:

"Do you smoke?" asks the examiner.

"Yes, sir," answers the student. "Will you have a cigar?" (*Hands the professor a puffing cabbage leaf cigar.*)

"Tell me," says the professor (*slowly lighting his weed*), "what are a physician's principal duties?"

"To collect his fees, increase his practice, and exhibit his diploma from the time-honored 'University of Guzzleburg,'" replies the student.

"Where shall you practice?" demands the professor, "and what are your duties towards me?"

"I shall go to America among the ignorant natives and make a golden harvest. And my duty towards you, Herr Professor, is to invite you to dinner for the rest of the semester," answers the student.

The professor smiles and says: "You are right. Let us go to a restaurant opposite and I will sign your diploma. The diplomas of the time-honored 'University of Guzzleburg,' are admired and respected in America. I have a cousin who is a doctor in Chicago. Let me tell you how the Indians chased him on Prairie avenue. He was wounded twice by their arrows and captured, but was released by his pursuers when they found on his person the time-honored diploma of the 'University of Guzzleburg.' Ah! here's the restaurant, and I will make out your diploma from the time-honored 'University of Guzzleburg.'"—*Lancet Clinic*.

WHILE cross-examining Dr. Warren, a New York counsel declared that doctors ought to be able to give an opinion of a disease without making mistakes.

"They make fewer mistakes than lawyers," responded the physician.

"That's not so," said the counselor; "but doctors' mistakes are buried six feet under ground, and lawyers' are not."

"No," replied Warren, "but they are sometimes hung as many feet above ground."

—*Montreal Legal News*.

WEEKLY REPORT OF INTERMENTS.—Deaths and Interments in the City of Philadelphia, from the 5th of July to the 12th of July, 1890:

CAUSES OF DEATH.	Adults.	Minors.	CAUSE OF DEATH.	Adults.	Minors.
Abscess of liver.....	2	2	Hemorrhage from brain.....	3	2
" lungs.....	2		" umbilical.....	1	
" throat.....	1	1	Homicide.....	1	
Aneurism of the aorta.....	1		Inflammation brain.....	2	15
Alcoholism.....	5		" brain.....	3	9
Anemia.....	1		" bladder.....	2	1
Apoplexy.....	9		" kidneys.....	1	1
Bright's disease.....	11	1	" heart.....	2	2
Cancer, breast.....	1		" lungs.....	8	8
" stomach.....	1		" periton'um.....	7	1
" uterus.....	3		" pleura.....	1	1
" liver.....	1		" s. & bowels.....	10	12
" pelvis.....	1		Insanity.....	1	
Casualties.....	8	2	Inanition.....	1	26
Congestion of the brain.....	1	9	Intussusception.....	1	
" lungs.....	3		Jaundice.....	1	
" bowels.....	1		Marasmus.....	1	32
Child birth.....	1		Measles.....	1	1
Cholera infantum.....	1	97	Old age.....	14	
" morbus.....	1		Obstruction of the bowels.....	4	
Consumption of the lungs.....	32	7	Paralysis.....	11	
" throat.....	1		Perforation of the bowels.....	1	
Convulsions.....	1	21	Pyemia.....	2	
" puerperal.....	3		Rheumatism.....	1	
Croup.....	5		Scrofula.....	1	
Cyanosis.....	5		Sore mouth.....	1	
Debility.....	3	12	Softening of the brain.....	3	
Diabetes.....	2		Stricture of Esophagus.....	1	
Diarrhoea.....	1	2	Suicide, cutting throat.....	1	
Diphtheria.....	10		" poison.....	2	
Disease of the hip.....	1		" shooting.....	1	
" heart.....	15	4	Sunstroke.....	1	1
Drowned.....	5	2	Syphilis.....	1	
Dysentery.....	1	9	Tabes mesenterica.....	1	
Dropsy, abdominal.....	2		Teething.....	2	
" of the brain.....	4		Tetanus.....	1	
" ovarian.....	1		Tumor, brain.....	1	
Effusion of brain.....	1		" abdominal.....	2	
Fatty degeneration of the heart.....	2		" ovarian.....	1	
Fever, puerperal.....	2		" neck.....	1	
" scarlet.....	2		Ulceration of the stomach.....	1	
" typhoid.....	10	3	Uremia.....	2	
Gangrene.....	1		Whooping-cough.....	9	
Hernia.....	1		Total.....	225	328

TO CONTRIBUTORS AND CORRESPONDENTS.

ALL articles to be published under the head of original matter must be contributed to this journal alone, to insure their acceptance; each article must be accompanied by a note stating the conditions under which the author desires its insertion, and whether he wishes any reprints of the same.

Letters and communications, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication, however. Letters asking for information will be answered privately or through the columns of the journal, according to their nature and the wish of the writers.

The secretaries of the various medical societies will confer a favor by sending us the dates of meetings, orders of exercises, and other matters of special interest connected therewith. Notifications, news, clippings, and marked newspaper items, relating to medical matters, personal, scientific, or public, will be thankfully received and published as space allows.

Address all communications to 1725 Arch Street.

Army, Navy & Marine Hospital Service.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, U. S. Army, from June 28, 1890, to July 10, 1890.

By direction of the Secretary of War, the following-named Assistant-Surgeons (recently appointed) will report in person for duty to the commanding officer of the various posts designated opposite their respective names:

First Lieutenant Frank R. Keefer, Fort Leavenworth, Kan.
First Lieutenant Thos. M. Raymond, Fort Sherman, Idaho.
First Lieutenant Henry D. Snyder, Fort Reno, Indian Ty.
First Lieutenant Allen M. Smith, Fort Snelling, Minnesota.
First Lieutenant Ashton B. Heyl, Fort Nebraska, Nebraska.
First Lieutenant Joseph T. Clarke, Fort Riley, Kansas.
Par. 6, S. O. 151, A. G. O., June 28, 1890, Washington, D. C.

CORBUSIER, WM. H., Captain and Assistant-Surgeon, is relieved from duty at Fort Lewis, Colorado, and will report in person to the commanding officer, Fort Wayne, Michigan, for duty. S. O. 151, par. 7, A. G. O., June 28, 1890, Washington, D. C.

BALL, ROBERT R., First Lieutenant and Assistant-Surgeon, is relieved from duty at Fort Riley, Kansas, and will report in person to the commanding officer, Fort Spokane, Washington, for duty. S. O. 151, par. 7, A. G. O., June 28, 1890, Washington, D. C.

By direction of the Acting Secretary of War, leave of absence for four months is granted Major James P. Kimball, Surgeon, to take effect when an officer of the Medical Department is assigned by his department commander to relieve him. Par. 6, S. O. 152, A. G. O., July 1, 1890, Washington, D. C.

ROBINSON, SAMUEL Q., Captain and Assistant-Surgeon, is relieved from temporary duty at the U. S. Military Academy, West Point, New York, to take effect upon the arrival there of Captain W. Fitzhugh Carter, Assistant-Surgeon, and will report in person to the commanding officer, Fort Du Chesne, Utah Territory, for duty, relieving Captain Curtis E. Price, Assistant-Surgeon. Captain Price, on being relieved by Captain Robinson, will proceed to Fort Wadsworth, New York Harbor, and report in person to the commanding officer of that post for duty, relieving Captain Robert B. Benham, Assistant-Surgeon. Captain Benham, on being thus relieved from temporary duty at Fort Wadsworth, will report in person, without delay, to the commanding officer, Fort Hamilton, New York Harbor, for duty. Par. 12, S. O. 153, A. G. O., July 2, 1890, Washington, D. C.

GARDINER, JOHN DE B. W., Captain and Assistant-Surgeon, having been found incapacitated for active service by an Army Retiring Board, and having complied with paragraph 12, S. O. 135, June 10, 1890, from this office, is, by direction of the Acting Secretary of War, granted leave of absence until further orders, on account of disability. Par. 3, S. O. 153, A. G. O., July 2, 1890, Washington, D. C.

By direction of the Secretary of War, the leave of absence on surgeon's certificate granted Captain Marcus E. Taylor, Assistant-Surgeon, S. O. 45, June 13, 1890, Division of the Pacific, is extended five months, on surgeon's certificate of disability, with permission to go beyond sea. Par. 6, S. O. 159, A. G. O., July 10, 1890.

Changes in the Medical Corps of the U. S. Navy for the two weeks ending July 12, 1890.

PAGE, J. E., Assistant-Surgeon. Ordered to hospital, Mare Island, Cal.

KENNEDY, R. M., Assistant-Surgeon. Ordered to the League Island Navy Yard, Pa.

RIXEV, P. H., Surgeon. Leave of absence granted for fifteen days.

OGDEN, F. N., Assistant-Surgeon. Promoted to be a Passed Assistant-Surgeon.

WHITE, S. STUART, Assistant-Surgeon. Promoted to be a Passed Assistant-Surgeon.

ATLEE, L. W., Assistant-Surgeon. Granted three months' leave of absence.

WOOLVERTON, T., Medical Inspector. Await orders to the U. S. S. "Philadelphia."

LOVERING, P. A., Passed Assistant-Surgeon. Await orders to the U. S. S. "Philadelphia."

McMURTRIE, D., Medical Inspector. Granted leave of absence for thirty days.

Medical Index.

A weekly list of the more important and practical articles appearing in the contemporary foreign and domestic medical journals.

- Antipyrin in children, Dessau. Jour. Amer. Med. Ass'n.
 About batteries, Liebig. N. E. Med. Monthly.
 Anti-septics in stricture urethra, Southam. The Lancet.
 Arthritis complicating vulvo-vaginal inflammation in children, Koplik. N. Y. Med. Jour.
 Aristol, Humphrys. Texas Courier-Rec. of Med.
 Action of tendo-achilles, Wirt. Med. Record.
 Acutely insane in general hospitals, treatm. of, Spratling. *Ib.*
 Acide carbonique liquide, de ses applications à l'hygiène et à la thérapeutique des bains de gaz carbonique, Peyrand. Jour. de Med. de Bordeaux.
 Aberrant sexual differentiation, Lydston. West. Med. Rep.
 Anwendung der Salicylsäure bei Behandlung der venerischen Geschwüre, Janovsky. Intern. Klin. Rundschau.
 Criminal jurisprudence as affecting inebriety, Kerr. Jour. Amer. Med. Ass'n.
 Cystitis als Complication des Diabetes, Schmitz. Berliner Klinische Wochenschrift.
 Clinatology and diseases of South. California, Bullard. South. California Pract.
 Cerebral localization, Ferrier. The Lancet.
 Caesarean section in moderately contracted pelvis, Murray. N. Y. Med. Jour.
 Clinical use of electricity in the diseases of women, Beville. Texas Courier-Record of Med.
 Corps étranger enfoncé dans la cavité buccale et sorti au bout de dix mois dans la région cervicale postérieure, Wagner. Revue de Laryngol. d'Otol.
 Considerations historiques sur les maladies de l'estomac et sur leur traitement, Beaumetz. Bulletin Gen. de Therap.
 Cascara sagrada for constipation, Aulde. N. Y. Med. Jour.
 Consanguineous breeding, relation to scrofula and tuberculosis, Brush. *Ibid.*
 Cerebral localization, Ferrier. Brit. Med. Jour.
 Cirrhosis of the liver in childhood, Edwards. Arch. of Pediat.
 Cholecystectomy, Prager. Montreal Med. Jour.
 Drunkenness and general paralysis, Wright. Jour. A. M. Ass'n.
 Diarrhoea in early life, Chapin. Med. Record.
 Der Einfluss der Antisepsis auf geburtshilfliche Operationen und die hieraus resultierenden Aufgaben der modernen Geburtshilfe, Dührssen. Berl. Klin. Wochenschrift.
 Des troubles oculaires dans le tabes dorsal et la théorie du tabes, Berger. Recueil d'Ophtalmol.
 De la dysphétrie, Simon. Le Bulletin Med.
 De l'angine de poitrine, Leduc. L'Union Med.
 Employment of the cataphoric action of galvanic current for removal of syphilitic new-growths, Woodbury. Med. News.
 External surgery of the nose, Ricketts. Jour. Am. Med. Ass'n.
 Electrolysis in urethral strictures, Palmer. Lanphear's Index.
 Eucleation of goitre, Keen. Med. News.
 Fall von Antifebrinvergiftung, Wolff. Deutsche Med.-Ztg.
 Genital origin of asthma in women, Reed. Cin. Med. Jour.
 Herpes zoster of mouth, Hugenschmidt. Med. News.
 Hygienic condition of our streets, Dowd. Med. Rec.
 Hæmorrhagic urticaria, Wills. The Lancet.
 Head-nodding and head-jerking in children, Hadden. *Ibid.*
 Hygroma chronique du genou guéri par la ponction suivie d'injection de liqueur de van Swieten, Massy. Journal de Med. de Bordeaux.
 Hyderabad chloroform commission, McKendrick. Br. Med. J.
 Immigration and its dangers at New York, Smith. Sanitarian.
 Intra-pelvic surgery, year's work, Hall. Cin. Lancet-Clinic.
 Intervention chirurgicale dans les cyclites circonscrites suivies de straphylome, Galezowski. Recueil d'Ophtal.
 Infantile paralysis, Spencer. Canadian Practitioner.
 Intra-cranial tumor, Thistle. *Ibid.*
 Kurze Mittheilungen über die Wirkung des Bromoforms bei Keuchhusten, Löwenthal. Berl. Klin. Wochenschrift.
 Klinische Beobachtungen über die entzündliche Leukocytose, Pick, Prager Med. Wochenschrift.
 Klimatische Behandlung der Lungenschwindsucht, Peters. Deutsche Medicinal-Zeitung.
 Le malatie infective spécifique e non spécifique. La Rif. Med.
 Laryngeal cramp, Foster. Lanphear's Index.
 La non spécifique anatomique des lésions microbiennes. La Tribune Medicale.
 L'origine de l'appareil renal des vertebres et la theorie des segments vertebraux, Pilliet. *Ibid.*
 Les couleurs d'aniline comme antiseptiques, Capitan. La Medicine Moderne.
 Loss of brain substance, recovery, Holmes. Memphis Med. M.
 Le fer rouge appliqué à la cure de certaines affections oculaires, Festal. Journal de Med. de Bordeaux.
 Meningitis from inflammation of the tympanum, Green. Boston Med. and Surg. Jour.
 Multiple arsenical neuritis, Stark. Med. Record.
 Milk sterilization, Currier. N. Y. Med. Jour.
 Malarial hæmaturia, Stadler. Texas Cour.-Rec. of Med.
 Malarial fevers, Boyce. St. Joseph Med. Herald.
 Metrites, endometrites chroniques et leurs variétés, leur pathogenie, leurs traitements locaux, Abeille. Gaz Gynecol.
 Mesenteric and omental cysts, Wells. Brit. Med. Jour.
 Neuere Untersuchungen über die bakterientödtende Wirkung des Blutes, und über Immunisation, Fodor. Cent. f. Bakt.
 New method for treatment of fractures of the maxillæ, Angle. Internat. Dental Jour.
 Note sur l'influenza, Tisné. La France Med.
 Nervöse und psychische Störungen nach Exstirpation beider Hoden, nebst einigen Bemerkungen zur Pathogenese dieser Erscheinungen in der natürlichen und künstlichen Klimax, Weiss. Wiener Med. Presse.
 Obstinate dropsies, management, Tyson. Med. News.
 Oedeme aigu du larynx, Oulmont. La Med. Mod.
 Ouvertures des abcs de la trompe et de l'ovaire par la laparotomie, Terrillon. Le Bull. Med.
 Obscure febrile attacks in the course of chorea, referable to endocarditis, Finlayson. Archives of Pediatrics.
 Primary progressive myopathy, Sachs. Med. News.
 Physical culture as taught abroad, Hurd. Boston M. S. Jour.
 Partial laryngectomy for carcinoma, Thorner. J. A. M. A.
 Penetrating gunshot wounds of the abdomen, Schachner. Annals of Surgery.
 Progress of sanitary legislation and regulations in the United States, Moore. Sanitarian.
 Premières recherches sur la nature et l'etiology du tetanos, Verhoyen and Baert. Jour. de Med.
 Puerperal convulsions, M'Cracken. Lanphear's Kans. C. M. I.
 Phlebite variqueuse, phlebitis multiples purpura, embolie pulmonaire. endo-pericardite infectieuse probable, Handjian. La France Medicale.
 Purulent ophthalmia, Andrews. N. Y. Med. Jour.
 Pyæmia in a man seventy-one years old, Heatly. *Ibid.*
 Psilosis, Thin. British Med. Jour.
 Paralysis, general surgical treatment of Shaw. *Ibid.*
 Pourquoi ne pas soigner l'enfant, Lachapelle. L'Union Med.
 Relations of the Massachusetts Medical Society to medical education, White. Boston Med. and Surg. Jour.
 Recent advances in surgery, Dixon. N. E. Med. Monthly.
 Rachitis and resulting deformities, Gillette. Northw. Lancet.
 Reflex ocular and facial symptoms of nasal disease, Peck. Int. Dental Jour.
 Radical cure of polypi of the nose, Griffin. Med. Rec.
 Salol, its antiseptic use in diseases of the genito-urinary system, Mumford. Boston Med. and Surg. Jour.
 State-medicine, Carroll. The Sanitarian.
 Sul salasso. La Rif. Med.
 Su di un caso di sifilide gommosa con carat terri di carcinoma dell' asta, Cucca. *Ibid.*
 Su di una rara forma di spasmo ritmico respiratorio e sulla temperatura dopo gli accessi convulsivi in un caso di isterismo traumatico, Cristiani. *Ibid.*
 Surgery of the knee-joint, Dandridge. Cin. Lancet-Clinic.
 Sur une forme particulaire de la maladie de Friedrich, Dejerine. La Med. Mod.
 Successful brain-grafting, Thompson. N. Y. Med. Jour.
 Sur la comparaison des données de l'auscultation otoscopique du diapason-vertex et de son audition par le sujet, sous l'influence de la deglutition, Gelle. Revue de Laryngol. d'Otol.
 Sur le mecanisme des accidents et de la mort par le chloroforme, Laborde. Bulletin de l'Acad. de Med.
 Syphilis nasale infantile, Laviolette. L'Union Med.
 Summer complaint, Christopher. Cin. Med. Jour.
 Supra-vaginal hysterectomy, Kelly. Med. News.
 Sachen d. Nephrorrhaphie, Frank. Berl. Klin. Wochenschrift.
 Tropho-neurosis of the oral cavity, Lydston. J. Am. Med. Ass'n.
 Therapie der Syphilis, Kaposi. Wiener Med. Presse.
 Tuberculosis of the pleura and lung, surgical treatment of, Tillmanns. Brit. Med. Jour.
 Un cas de mutisme hysterique, guérison par suggestion pendant le sommeil hypnotique, Charazac. Rev. de Lar. d'Otol.
 Work of the Marine Hospital Bureau, Hamilton. Sanitarian.
 Zur Lehre von der Genese der Kalk-Concretionen in der Leber des Menschen, Schwertassek. Prager Med. Woch.
 Zur Wuthfrage, Blumberg. Centralblatt.

DISEASES OF THE URIC ACID DIATHESIS.

LAMBERT'S LITHIATED HYDRANGEA.

FORMULA.—Each fluid drachm of "Lithiated Hydrangea" represents thirty grains of FRESH HYDRANGEA and three grains of chemically pure Benzo-Salicylate of Lithia. Prepared by our improved process of osmosis, it is invariably of definite and uniform therapeutic strength, and hence can be depended upon in clinical practice.

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BRIGHT'S DISEASE.

DIETETIC NOTE.—A rigid milk diet has given good results in many cases.

Allowed.—Fish, sweet breads, sagotaploca, macaroni, baked and stewed apples, prunes, etc.; spinach, celery, lettuce, etc., may be used in moderation in connection with a milk diet, without impairing its effect, and with great comfort and enjoyment to the patient.

Avoid.—Strong coffee and tea, alcoholic stimulants, soups and made dishes.

We have had prepared for the convenience of Physicians **Dietetic Notes**, suggesting the articles of food to be allowed or prohibited in several of these diseases.

These Dietetic Notes have been bound in the form of small perforated slips for Physicians to distribute to their patients. Mailed gratis upon request, together with our latest compilation of case reports and clinical observations, bearing upon the treatment of this class of diseases.

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GOUT.

DIETETIC NOTE.—A mixed diet should be adopted, the nitrogenous and saccharine articles being used in limited amounts.

Allowed.—Cooked fruits without much sugar, tea and coffee in moderation. Alcoholic stimulants, if used at all, should be in the form of light wines or spirits well diluted. The free ingestion of pure water is important.

Avoid.—Pastry, malt liquors, and sweet wines, are veritable poisons of these patients.

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Is rapidly growing in favor with the medical profession. It is the most powerful antiseptic known, almost tasteless and odorless. Can be taken internally or applied externally with perfect safety. Its curative properties are positive, and its strength and purity can always be relied upon. This remedy is not a nostrum.

Experiments of Prof. Pasteur, Dr. Koch, and many other scientific authorities, prove beyond doubt that Germs, Bacteria, or Microbes cause and develop: NOSE, THROAT, and LUNG DISEASES—Diphtheria, Croup, Sore Throat, Catarrh of the Nose, Hay Fever, Bronchitis, Laryngitis, Pharyngitis, Whooping-cough, Consumption and other Chronic Affections, specific or not.

GERMS, BACTERIA, or MICROBES are instantaneously annihilated when brought into contact with Ch. Marchand's Peroxide of Hydrogen. This wonderful bactericide acts both chemically and mechanically upon all excretions and secretions, so as to thoroughly change their character and reactions instantly. By destroying the microbial element this remedy removes the cause of the disease.

CAUTION.—I would earnestly impress upon the profession the very great importance of prescribing only my Peroxide of Hydrogen (Medicinal), from which all hurtful chemicals have been eliminated.

By specifying in your prescriptions "Ch. Marchand's Peroxide of Hydrogen (Medicinal)," which is sold only in $\frac{1}{4}$ lb., $\frac{1}{2}$ lb., and 1 lb. bottles, bearing my label and signature, you will never be imposed upon.

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Notes and Items.

DR. L. G. BAUER visited Mount Pocono.
 PROF. REICHERT is at Jamestown with his yacht.
 DRS. LEMOINE, Levick and Chisholm are in Paris.
 DR. E. D. HOWLAND, of Chicago, is at Cape May Point.
 DR. H. C. ECKSTEIN is at the Carlton, Cape May Point.
 DR. W. C. GILLAN, of New York, is sojourning at the Catskills.

DR. A. SYDNEY ROBERTS registers at the Ocean House, Newport.

DR. J. F. FRYER, of Pottstown, is tenting with a party at Anglesea.

At the Wissahickon are Drs. Orville Horwitz and Geo. Fales Baker.

DR. G. M. BOYD, a Philadelphia physician, is at the Shelbourne, Atlantic City.

DRS. R. H. JOHNSTONE and W. G. Gillam are registered at the Hotel Kaaterskill.

At Capon Springs are Drs. Alison, Chas. Bryne, U. S. A., and P. M. Rixey, U. S. N.

DR. W. T. MAGUIRE, of Philadelphia, is a guest at the Mansion House, Atlantic City.

DR. WALTERS' MOUNTAIN HOME, at Wernersville, has become a popular summer resort.

DR. AND MRS. JOSEPH STOKES have returned to Moorestown, N. J., from their wedding trip.

DR. CHARLES HARKER, of Philadelphia, was one of the Chalfonte's (Atlantic City) recent guests.

OVER one hundred people were drowned by a ferry landing giving way in Dartmouth, N. S., last week.

DR. LEE, the well-known Philadelphia physician, is at the Hayes Cottage, Cape May, with his family.

AVON has been favored with a visit from Drs. F. M. Holden, C. N. Davis, A. D. Smith and L. Starr.

DR. MCCLINCH will summer at the West End, and Dr. Howard Dessar at the Scarboro, Long Branch.

DR. AND MRS. C. G. ABBOTT, of Woodbury, are at Haddon Hall, Atlantic City, and will remain there several weeks.

A VIENNA suicide of genius painted his initials and three crosses on a barrel of vinegar and then drowned himself inside.

DR. WM. KESTER presides over the Bordentown Odd-Fellows; a certain indication that he is regarded as a Good-Fellow.

DR. J. A. WALMSLEY, a prominent physician of Gloucester City, was among the recent guests at Haddon Hall, Atlantic City.

DRS. W. H. WARDER and I. W. Hughes, and C. B. Warder have wisely resorted to Crump's Monmouth Hotel at Spring Lake.

At Avon, on July 17, the young people presented a theatrical entertainment, for the benefit of the Home for Crippled Children.

DR. RUSH SHIPPEN HUIDEKOPER, the well-known veterinarian from Philadelphia, has been staying at the Stockton, Cape May.

DR. WM. HASSENPLUG, of Gloucester, and F. Hassenplug, of Philadelphia, started last week on a bicycle tour in Pennsylvania and Ohio.

THE Devon Inn register bears the autographs of Drs. Persifor Frazer, G. F. Baker, G. R. Morehouse, H. Leffman, W. B. Atkinson, S. T. Davis, Benj. Lee.

DR. L. A. DUHRING, one of the lecturers of the University of Pennsylvania, has just returned from Europe, and, with his sister, stops at the Hoffman House, Atlantic City.

DR. N. ELLMAKER, an old resident of Lancaster, affixed his signature to the register of the Girard House recently. The doctor says Lancaster county still holds front rank among the gilt-edged agricultural regions of the country.

THE number of Philadelphia doctors who are off pleasuring is so great that one wonders who is left to do the summer's work. At Atlantic City we find Drs. J. S. McNutt, C. H. Harker, B. F. Scholl, C. A. Veasey, J. H. Oliver, Kerr, R. S. Lynd, D. P. Madden, Sam'l Starr, J. H. Service, A. Frau, H. L. Smith, S. W. Morton, A. D. Barrett, J. M. Kaufman, D. D. Custer, J. D. Riblen, M. S. Spricker, T. M. Fetterman, L. F. Smiley, Dr. Wiehle, C. G. Godfrey.

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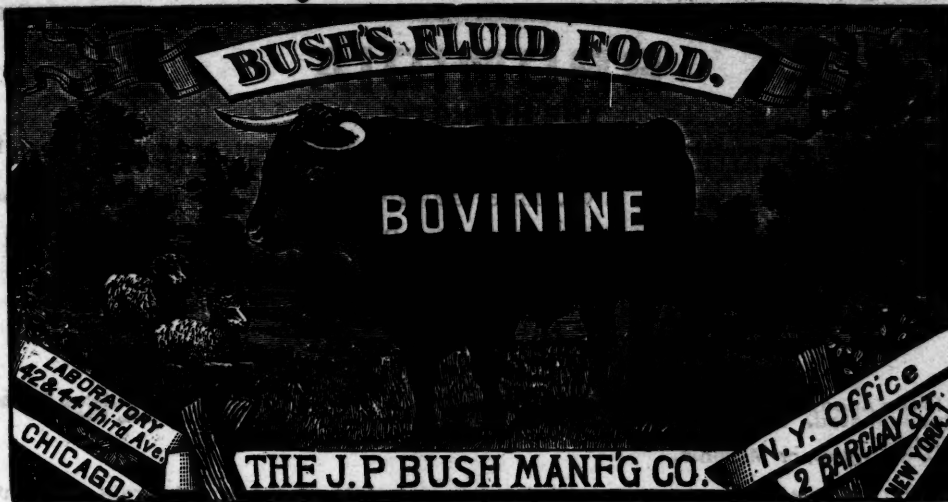
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By B. N. TOWLE, M.D., OF BOSTON.

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These facts have been demonstrated by thirty years' clinical experience in the treatment of this disease exclusively, by Dr. Churchill, who was the first to apply these remedies in medical practice. Modified doses are also required in this disease: seven grains during twenty-four hours being the maximum dose in cases of Phthisis, because of increased susceptibility of the patient to their action, the danger of producing toxic symptoms (as hemorrhage, rapid softening of tubercular deposit, etc.), and the necessity that time be allowed the various functions to recuperate, simultaneously, over-stimulation by pushing the remedy, resulting in crises and disaster.

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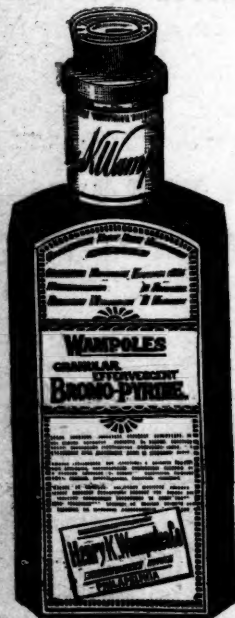
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DOSE.—A heaping teaspoonful (containing 15 grains Bromide of Sodium, 1 grain Bromide of Caffeine, 3 grains Antipyrin) in half a glassful of water, may be repeated every hour until the desired result is obtained.

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Notes and Items.

"If this thing gets much hotter," mused Atlas, yesterday afternoon, "I'll have to drop it."—*Washington Post*.

"WHAT is the matter with your optics?"

"I'm keeping them locked up tight as eye-witnesses of a fight I was interested in lately."—*Philadelphia Times*.

THE SAD TRUTH.—Tommy: "I see that the paper prints M.D. after Dr. Swims' name; what does it mean, pa?"

Pa: "Many deaths, I guess; don't bother me."

—*Kearney Enterprise*.

LAWYER: "Do you swear positively that you know more than half this jury?"

Witness: "Yes sir; and now that I have taken a good look at 'em I'll swear that I know more than all of them put together."—*Law*.

PHYSICIAN (reflectively): "H'm! The ca g is one, I think, that will yield to a mild stimulant. Let me see your tongue, madam, if you please."

Husband of patient (hastily): "Doctor, her tongue doesn't need any stimulating."

"DID you ever try any of those patent snuffs for a cold. I did once and I thought I'd sneeze my head off."

"I actually did do the next thing to that."

"What?"

"I sneezed my hat off."—*Philadelphia Times*.

A CHRONIC COMPLAINT.—Doctor: "What is your husband's complaint, ma'am? Is it chronic?"

Wife: "Yes, sir. I have never known him to be satisfied with a meal for the past thirty-five years."

—*Burlington Free Press*.

A VERY SUSCEPTIBLE PERSON.—A man visited a well-known Parisian physician's office, and the following dialogue occurred:

Patient: "I am suffering greatly, doctor."

Physician: "What appears to disturb you?"

Patient: "I have such susceptible bowels, that, yesterday, seeing a man eating a melon, I was immediately attacked by colic."—*Cincinnati Lancet-Clinic*.

WHAT has become of all the apothecaries? There are pharmacists at every corner, but the apothecary seems to have disappeared.—*Boston Commercial Bulletin*.

They are in the middle of the next block, selling Sunday liquor in original packages.—*New Orleans Picayune*.

THE SCIENCE OF MEDICINE.—"I know exactly now what you must do to recover your health. You must drink, every morning, two cups of very strong tea."

"But, Doctor, I have done that always for ever so many years."

"Oh, is that so? Then leave it off."—*Fliegende Blätter*.

A ST. PETERSBURG doctor is stopped late at night by a policeman, who asks why he is out so late.

"To attend Mr. Popoff, who was taken suddenly ill."

"Did he have a permit to be taken suddenly ill?"

"No."

"Then you will have to go to prison."—*Detroit Free Press*.

WE have received an illustrated catalogue of Dr. Geo. H. Taylor's Remedial Apparatus as used at the Improved Movement Cure Institute, 71 East Fifty-ninth street, New York, under the able management of Dr. G. H. Patchen. It is full of useful information, and we heartily endorse this system, and recommend it to the attention, which it is fast getting, of the medical profession.

OF mountain, lake and river clear,
From Chunkamunk to Punkapaug,
I've heard of names that seemed absurd,
But never yet, upon my word,
One half so queer, as this one here:
Chargogaggogmanchangogogamaugh.

WHY THEY LAUGHED.—She was a proud lady, and a rich one, too, as indicated by the fact that she owned a pew in one of Chicago's most fashionable churches. She wore large diamond ear-rings and a costume most elaborate. In fact, she carried with her an atmosphere of ultra-respectability, which was almost oppressive, as she entered church last Sunday, a little late, and observed from a distance that her pew was already occupied, and by strangers. Walking down the aisle, with her nose in the air as if pointing to the north star, she stopped at her pew, and turning haughtily to the usher, who had followed at a respectful distance, inquired in a tone of concentrated, but suppressed contempt: "Who are these persons occupying my pie?" And the minister wondered what made the congregation laugh.

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Prof. Gross stated at one of his Surgical Clinics in the Jefferson Medical College Hospital, that he had just concluded a series of experiments with cat-guts obtained from different sources; and that the article which I now offer for sale, he considered superior to all others. I put this up in coils of 10 feet, four different sizes, Nos. 1, 2, 3, 4 (four is thickest). Nos. 2 and 3 are the most useful sizes.

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Prof. WM. A. HAMMOND, M.D., says: A wineglassful of this tonic, taken when one is exhausted and worn out, acts as a most excellent restorative; it gives a feeling of rest and relief, and there is no reaction and no subsequent depression. A general feeling of pleasantness is the result. I have discarded other wines of coca and use this alone. It produces also excellent results in cases of depression of spirits; in hysteria, headache, and in nervous troubles generally it works admirably. It is a simple remedy, yet efficacious and remarkable in its results.

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DR. D. W. MCCARTHY.

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Seats are issued in the order of matriculation, and are forfeitable if fees are not paid before November 1.

Preliminary examination, or equivalent degree and three years graded course, obligatory.

Instruction is given by lectures, recitations, clinical teaching, and practicable demonstrations. In the subjects of Anatomy, Pharmacy, Chemistry, Physiology, Hygiene, Therapeutics, Histology, and Pathology, the usual methods of instruction are largely supplemented by laboratory work.

Examinations are held at the close of each Regular Session upon the studies of that term. Although the degree of Doctor of Medicine is conferred at the end of the third year, a fourth year is earnestly recommended, at the end of which the degree of Doctor of Medicine cum laude is given.

FEES.—Matriculation, \$5; first and second years, each, \$75; third year (no graduation fee), \$100; fourth year free to those who have attended three Regular Sessions in this school, to all others, \$100. Extra charges only for material used in the laboratories and dissecting-room. For further information or announcement address,

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THE PRELIMINARY SESSION will begin on Wednesday, September 24, 1890, and end September 30, 1890. It will be conducted on the same plan as the Regular Winter Session.

THE REGULAR WINTER SESSION will begin October 1, 1890, and end March 1, 1891. The plan of instruction consists of Didactic and Clinical Lectures, recitations and laboratory work in all subjects in which it is practicable.

LABORATORIES AND SECTION TEACHING.—The complete remodeling of the College building, and the addition of the new "Loomis Laboratory" will afford greatly increased laboratory accommodations in the department of Biology, Pathology, Physiology, Chemistry and Physics. A new amphitheatre and a new lecture-room have been provided as well as adequate facilities for Section teaching, in which the material from the College Dispensary will be utilized.

Two to five Didactic Lectures and two or more Clinical Lectures will be given each day by members of the Faculty. In addition to the ordinary clinics, *special clinical instruction*, will be given to the candidates for graduation during the latter part of the Regular Session. For this purpose the candidates will be divided into sections of twenty-five members each. All who desire to avail themselves of this valuable privilege must give in three names to the Dean during the first week. These clinics will be held in the Wards of the Hospitals and at the Public and College Dispensaries.

Each of the seven Professors of the Regular Faculty, or his assistant, will conduct a recitation on his subject one evening each week.

THE SPRING SESSION will begin March 25 and end the last week in May. The daily Clinics and Special Practical Courses will be the same as in the Winter Session, and there will be Lectures on Special Subjects by Members of the Faculty.

It is supplementary to the Regular Winter Session. Nine months of instruction are thus secured to all students of the University who desire a thorough course.

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on page xvi.

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An Open Letter to the Medical Profession.

THE INFANT FOOD PROBLEM SOLVED.

NEW YORK, May 1, 1890.

The Annual of the Universal Medical Sciences for 1889, says: "A perfect Infant Food is still a desideratum; such a food will probably be evolved in the mind of some manufacturer who understands the physiology of infantile digestion and the chemistry of milk. A substitute for human milk, to approximate the latter closely, should be made entirely from cow's milk, without the addition of any ingredient not derived from milk.

"But not alone do we demand that these Milk Foods contain the equivalent of the solids in human milk, and especially of the albuminoids derived from milk, but that the latter be gathered with the utmost care from properly fed animals, transported with the least possible jolting to the factory, maintained during its transit at a low temperature, then transferred to an apparatus for sterilization, and immediately after the latter has been accomplished reduced to the dry state, in order to prevent the formation of those organisms which Loeffler, Pasteur, and Lister have found to develop in fluid milk after boiling under an alkaline reaction. If such a preparation be put into air-tight and sterilized jars, all will have been accomplished that can be done to render the food sterile, and thus fulfil the chief indications in the prevention of the most serious gastro-intestinal derangements.

"Such a food, too, would have the advantage of being easily and rapidly prepared by addition of sterilized water, affording an altogether sterilized food."

To the Medical Profession at large, we submit for examination and trial the perfect Milk Food known as LACTO-PREPARATA. We claim that LACTO-PREPARATA is an ideal Infant Food, and that it fulfils the above requirements in every particular, except the partial substitution of cocoa-butter for unstable milk-fat. This substitution was made by advice of Prof. Attfield, London, who made extensive tests of its food value and digestibility in the London Hospitals for Infants.

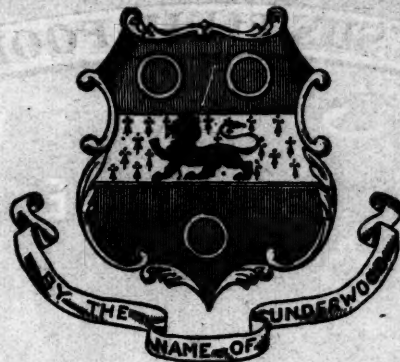
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Another product of our laboratory, which has been before the profession for a number of years, is CARNRICK'S SOLUBLE FOOD, which, as now prepared and perfected, contains $37\frac{1}{2}$ per cent. of the solid constituents of milk, $37\frac{1}{2}$ per cent. of wheat with the starch converted into dextrine and soluble starch, and 25 per cent. additional milk-sugar. For infants over six months of age it is perfect in every respect; for infants younger than this, LACTO-PREPARATA is more suitable, although Soluble Food has also been used largely from birth with most satisfactory results.

Samples will be sent prepaid, also pamphlet giving detailed description.

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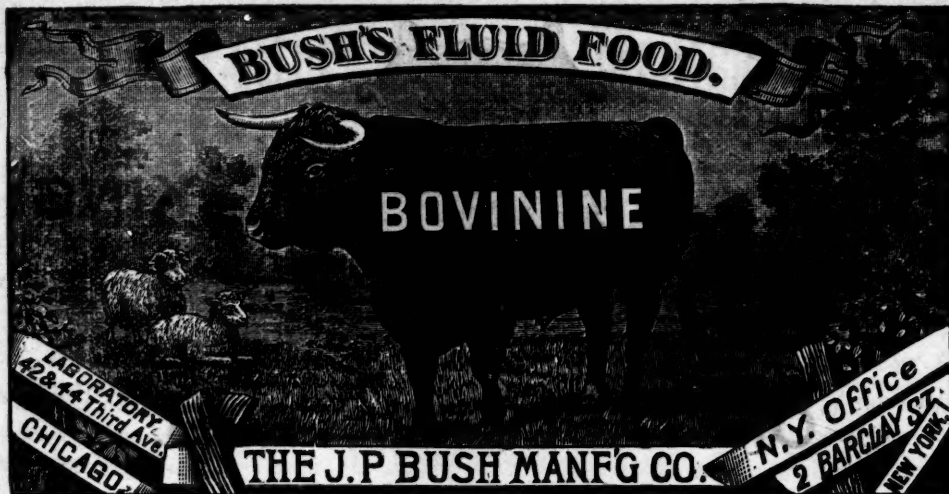
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RAW FOOD EXTRACTS AND THEIR VALUE.

FROM AN ESSAY READ BEFORE THE AMERICAN MEDICAL ASSOCIATION AT WASHINGTON, D. C., MAY 6th, 1884,

BY B. N. TOWLE, M.D., OF BOSTON.

"Nervous debility and neuralgia are often the results of nerve starvation. They are now, more than ever, the dread of every intelligent physician, and the terror of all business men. The weary hours of pain, and the sleepless nights of those suffering from nervous diseases, are but the beseechings of an exhausted nerve for food. Hungry and starved, they make their wants known by the pain they set up as their only agonizing cry; and no medication will give permanent relief until the hunger is satisfied.

• Our research, then, must be to find a more easily digested and assimilated food.

Observation seems to sanction the fact that vegetable food elements are more readily assimilated by persons of feeble digestion than are the animal food elements, and especially when they have undergone the digestive process in the stomachs of healthy cattle. The juices of these animals, when healthy and fat, *must* contain all the food elements in a state of solution most perfect, and freed from all insoluble portions, and hence in a form more easily assimilated than any other known food.

I have used Raw Food Extracts for more than eight years, in a large number and variety of cases, and in no case of malnutrition has it failed to give relief.

I have given it to patients continuously for months, with signal benefit, especially in complicated cases of dyspepsia, attended with epigastric uneasiness arising from enervation, and in nervous debility of long standing. The sudden and full relief this food affords patients who have a constant faintness at the stomach, even immediately after taking food, shows how readily it is assimilated. This faintness is a form of hunger, and is the cry of the tissues for food, not quantity but quality—a food that the famishing tissues can appropriate and thrive upon.

Raw Food is equally adapted to lingering acute diseases. I have used it in the troublesome sequelæ of scarlatina, where there was exhaustion from abscesses in the vicinity of the carotid and submaxillary glands; and in protracted convalescence from typhoid fever, with marked advantage. The cases that I especially value it in are laryngeal consumption and nervous exhaustion, in which cases there is always more or less derangement of the digestive tract, such as pain in the stomach, constipation, eructation of gases, distress after taking food, etc. Raw Food should be taken with each meal, the patients taking such other food as they can readily digest, in quantities suited to the individual case.

It adds much to the nutrition of the patient, overcomes the constipation, subdues the nervousness by increasing the strength, and is just the amount added which is required to secure success."

The unsolicited opinion of Surgeon-General Murray, U. S. A. (Retired).

"It gives me pleasure to give my testimony to the very great value of BOVININE as a dietetic preparation. I have used it for more than a year in a very aggravated case of nervous dyspepsia, and have found it to answer very much better than any of the many preparations or extracts of meat before used.

I find that it keeps perfectly even in the warmest weather; is very easily prepared for administration, and it has proved acceptable and beneficial in every case in which I have known it to be given."

PHILADELPHIA, PA., March 1st, 1887.

Very respectfully and truly yours,

R. MURRAY, M.D.,

Surgeon General (Retired) U. S. A.

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COHORS, N. Y., Sept. 11, 1889.

The U. P. & G. Co.,

Gents: Your letter and also pocket case received. I am delighted with it. Like all of your goods, it is elegant and just my ideal of what a pocket case should be. I have long been using Upjohn's Pills and consider them handsome, well finished and always uniform and reliable. Rest assured that I shall continue to use them and will be more than pleased to say a good word for them at any and all times.

Very truly yours, C. E. Witbeck

N. Y., May 27, 1889.

The U. P. & G. Co.,

Gentlemen: We enclose herewith money order for amount of invoice of May 22. We shall be pleased to order of you when our present stock is exhausted. Your pills so far are giving perfect satisfaction.

Yours very truly, Thomas J. Keenan,
N. Y. Polyclinic, Hospital and Dispensary.

WATERFORD, N. Y., Feb. 1, 1889.

The U. P. & G. Co.,

Gentlemen: Enclosed please find check for amount of statement received. Your Quinine Pills give perfect satisfaction to our physicians; we have sold about sixty ounces within the past year.

Respectfully, John Higgins & Co.

NEWTON, N. J., July 5, 1889.

The U. P. & G. Co.,

Dear Sirs: We have used your Quinine Pills exclusively for the last two years, and are entirely pleased with them. Yours, etc., H. O. Ryerson & Co.

ELMIRA, N. Y., July 19, 1889.

The U. P. & G. Co.,

Dear Sirs: Case of granules received. I am very much pleased with the Upjohn Pills and believe the process will eventually revolutionize the manufacture of pills. Yours truly F. B. Parke, M.D.

COHORS, N. Y., Aug. 23, 1889.

The U. P. & G. Co.,

Gents: Enclosed please find New York draft for invoice of July 31 for Private Formula No. 1332.

I must say that the pills are very nicely made and also work to a charm. Please note me 50,000 lots of same.

Respectfully yours,

Jonas S. Ten Eyck.

NEW ROCHELLE, N. Y.

The U. P. & G. Co.,

Gents: I have found your case a great convenience and its contents have been very helpful to my patients. The case has already paid for itself ten times over.

Yours, E. W. Finch, M.D.

NORTH MANCHESTER, IND., Sept. 14, 1889.

The U. P. & G. Co.,

Dear Sirs: I have received the pills manufactured by your house (Special Formula) and I like them very much. When I need anything in your line I know where to get it. Enclosed you will find money order in satisfaction of same. Yours truly,

D. A. Goshorn, M.D.

TERRE HAUTE, IND., July 23, 1889.

The U. P. & G. Co.,

Dear Sirs: Recently when prescribing pills and granules, I have specified those of your manufacture. They have invariably given the best of satisfaction.

Yours very truly,

Cort F. Askren, M.D.

SHELBYVILLE, ILL., Oct. 19, 1887.

The U. P. & G. Co.,

My Dear Sirs: The pills came to hand this morning; enclosed find P. O. Order for same. I am very grateful to you for sending them. I have always found your goods reliable.

Respectfully,

Dr. A. M. Collins.

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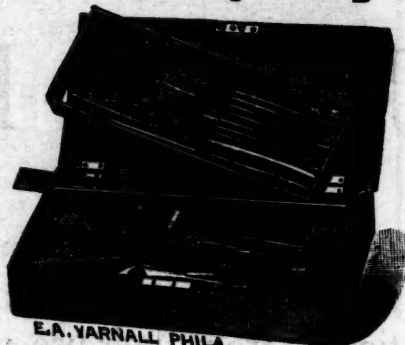
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